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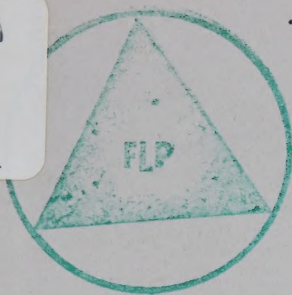






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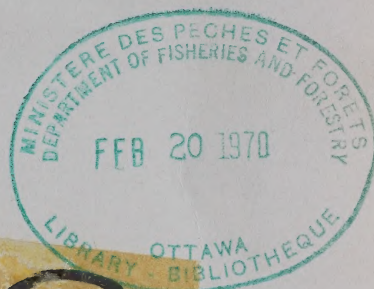


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# RESEARCH INDEX ONTARIO • 1969



AGRICULTURE  
ARCHITECTURE  
CHEMISTRY  
COMPUTER SCIENCE  
EARTH SCIENCES  
ENGINEERING  
FORESTRY  
LIFE SCIENCES  
PHYSICS  
and a Summary  
of Reported Industrial  
Research Facilities

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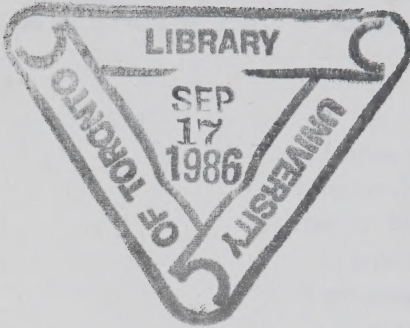
**Projects being carried on  
within Ontario Government  
Departments and Agencies,  
and in a number of  
Companies operating in  
Ontario in**

**AGRICULTURE  
ARCHITECTURE  
CHEMISTRY  
COMPUTER SCIENCE  
EARTH SCIENCES  
ENGINEERING  
FORESTRY  
LIFE SCIENCES  
PHYSICS**

**and  
a Summary of Reported Industrial  
Research Facilities**

**Published by the Ontario Economic Council**

4M/12/69





## FOREWORD

This is the fifth edition of an index to research projects being undertaken by Ontario government departments and agencies, and by Ontario industries, in the fields of agriculture, architecture, chemistry, computer science, earth sciences, engineering, forestry, life sciences and physics.

Following the publication of the 1968 edition, a survey was made of its usefulness within the research community and to industry, commerce and public agencies within the province. The response was overwhelmingly affirmative. It was agreed, however, that, as few significant changes occur annually, the index could, in future, serve effectively if it were issued every second year.

In this 1969 edition there has been a significant expansion of the section devoted to the research capabilities of private industries in Ontario. There has also been added a number of projects in the field of computer science.

We would again draw to the attention of persons using this index that university research is excluded. This exclusion was made in no way to denigrate its very vital role but simply because the National Research Council prepares an annual listing of all graduate theses and programs in Canadian universities and to have included such herein would have been an unnecessary duplication.

\* \* \* \*

We would particularly like to thank the companies and the departments and agencies of the Ontario government whose contributions make this index possible. We would also commend the editor, Dr. A. D. Misener, for his continuing interest and capable administration and the Ontario Economic Council executive officer, Ian Butters, who was charged with the responsibility for the publication.

W. H. CRANSTON  
*Chairman.*

DECEMBER, 1969



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The purpose of this Index is to provide names of people who may be contracted for the purpose of obtaining further information regarding the projects here listed. Different agencies have different practices in this regard, some prefer you to contact the person most familiar with the work, others prefer that the director of the project or the director of the research division be the initial contact.

In the Directory of Projects, the first name in each project listed is the one the responders have indicated should be your initial contact.

This index lists all the individuals associated with the research. It is our method of giving due credit to those scientists and engineers who are properly proud of their achievements described in this volume.

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## SUBJECT INDEX

As in previous editions, this index has been designed to be the basic cross-reference for any person who wants to know what is being done in Ontario (Universities excepted) with respect to research on a particular item, idea or area. We have therefore listed all submissions to the Index under at least three headings:

- (a) the field of investigation (designated by the investigator) such as analytical chemistry, electrical engineering, metallurgy;  
and
- (b) materials or products, such as herbicides, power transmission, computer applications;  
and
- (c) identifiable objects e.g., corn, iron or sweet potatoes, concrete.

In addition to this listing we have selected certain key words from the description provided by the responders and have added these to this Index. For example, anyone interested in the general field of paving materials should consult the projects listed under asphalt, cement, sealing compounds as well as test methods and measurements.

Obviously this cross-index cannot be complete so we urge any reader to use his own intelligence and skim through the final and significant part of the Index. That is the Directory of Projects starting on page . Here you will find, under appropriate headings, all the research, all the people, and all the points of contact you need to discover what is happening in research in the scientific and engineering fields in Ontario.

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**Department of Education  
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ORLOWSKI, S. T., ANDERSEN, A. F., PAIN, (Mrs.) M. — Industrial arts for elementary and secondary schools ..... 2004

ORLOWSKI, S. T., ANDERSEN, A. F. — Science laboratories for secondary schools ..... 2005

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ORLOWSKI, S. T., PAIN (Mrs.) M. — Special education facilities for emotionally disturbed children ..... 2007

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- WIMBS, J. B., BENTON, I. R. — Physical education facilities for  
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<sup>1</sup>Institute for Aerospace Studies, University of Toronto.

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<sup>1</sup>McMaster University.  
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<sup>1</sup>Previously under the Fisheries Research Board of Canada.



- LEWIS, C. A. — To document the contribution of successive year classes of small mouth bass to the sport fishery of South Bay. These data test the reliability of predictions of the quality of bass angling based on temperature index known to influence class year strength of bass in their first year of life ..... 8043
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<sup>1</sup>In co-operation with Connaught Medical Research Laboratories.

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<sup>1</sup>In cooperation with the Research Branch, Department of Lands and Forests.



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<sup>2</sup>In cooperation with the University Hospital, London, Ontario.

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### International Cellulose Research Limited

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### Maple Leaf Mills Limited Master Feeds

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### Molson Breweries of Canada Limited

VAN GHELUWE, G., DADIC, M., MCKEE, J. — To provide information and experience of a routine and advanced nature which will lead to the production of improved products, new products, better techniques, better raw materials and by-product utiliza- tion .....	8097
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- VAN GHELUWE, G., KOVECSSES, F. — To provide information on the microbiology of yeast and the fermentation process which will lead to greater product uniformity, better sanitation techniques and improved efficiencies ..... 8098

### **St. Lawrence Starch Company Limited**

- DAVIS, H. M., RIEDEL, G. — Effluent treatment program involving the biological treatment of carbohydrate wastes with a yeast sludge in a modified activated sludge treatment unit for the purpose of converting the waste material into a pure yeast, which could be used as an animal feed supplement ..... 8099

### **Thomson Research Associates Limited**

- CRUIKSHANK, N. H., RADFORD, P. J. — Investigations into new germicide formulations to give a wider range of killing and increased durability to textile fabrics ..... 8100

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- DE LA IGLESIA, F. A., LUMB, G. D., SOSA-LUCERO, J. C.—Functional and structural studies on the liver of senile animals ..... 8102
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- DE LA IGLESIA, F. A., LUMB, G. D., WALL, C. — Baseline morphological studies for the application of non-human primates to drug testing ..... 8104
- DE LA IGLESIA, F. A., LUMB, G. D., SOSA-LUCERO, J. C., WALL, C.—Development of a functional test for the early detection of drug-induced metabolic changes ..... 8105

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<sup>1</sup>In collaboration with the Department of Pathological Chemistry, University of Toronto.

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- SCOTT, D. S. — Microthermal investigation of particulate diffusion .... 9002

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Department of Physics**

- CHATFIELD, E. J. — Applications of electron microscopes and micro-  
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- PULLAN, H., ADOLPH, G., HEYLAND, G. — Doping of elemental and  
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- PULLAN, H., BERTRAM, R. W. — Electrical and structural proper-  
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- PULLAN, H., CHATFIELD, E. J. — Compound and refractory films  
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- PULLAN, H., NORGATE, G. — Growth and properties of very large  
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**Aircraft Appliances and Equipment Limited**

- HAVELKA, O. R., RIZEK, V. — Gaseous material total flow measuring  
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### Barringer Research, Limited

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- DAVIES, J., MCNEILL, J. D., DICK, R. — The use of the Barringer correlation spectrometer for military purposes ..... 9015
- DAVIES, J. MOFFAT, A. J. — Airborne atmospheric NO<sub>2</sub> and SO<sub>2</sub> pollution survey over cities ..... 9016
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- DICK, R., DAVIES, J., NOR, J. — The development of electro-optical instruments to measure heavy water in its liquid and vapour phases ..... 9018
- MOFFAT, A. J., LEVY, G., MCNEILL, J. D., MOTYCKA, J., ROBBINS, J., NOR, J., DAVIES, J. — The development of electro-optical instruments for measuring liquids or vapours of value to mining, milling and air pollution operations ..... 9019
- NEWBURY, B. C., MOFFAT, A. J., WOOD, T. — The evaluation of single point against long path techniques of air pollution measurement ..... 9020
- NEWBURY, B. C., NEWBURY, C., MOFFAT, A. J. — The use of the Barringer airborne NO<sub>2</sub> measuring system to study the production of NO<sub>2</sub> from NO in pollution plumes ..... 9021
- ROBBINS, J., NEWBURY, C., WOOD, T., PARKER, J., MOFFAT, A. J. — The comparison between the Barringer technique of pollution measurement and chemical methods ..... 9022
- ROBBINS, J., MORYCKA, J. — Development of an airborne mercury spectrometer ..... 9023



**Bowmar Canada Limited**

- RUSS, M. J., DELANEY, M., EFFER, D., MACGREGOR, G. — Research on injection luminescence ..... 9024
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- ZELINGER, G. — Research into coherent and non-coherent optical correlators and matched filters, both analytic and experimental<sup>1</sup> 9026

**Canadian Johns-Manville Company Limited**

- GARDNER, I. P., CHAUDHURI, A., SIKKA, S. — To improve insulating value of fibreglass material ..... 9027

**Canadian Westinghouse Company Limited**

- LAKE, R. E. W., SAUNDERS, R. — Electroluminescence: development of electroluminescent phosphors and of photoconductor materials ..... 9028
- Electroluminescence: development of electroluminescent display panels with and without memory stage ..... 9029
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- PIECZONKA, W. A., BARBER, H. D. — Semiconductors: PN junctions, studies in bulk phenomena of silicon, device reliability ..... 9031
- PIECZONKA, W. A., CLAYTON, N. S. — Semiconductors: research on surface effects, metal oxide silicon studies, insulated-gate-field-effect transistors ..... 9032

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<sup>1</sup>Defence Industrial Research Grant — Defence Research Board.

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- PIECZONKA, W. A., O'SHAUGHNESSY, T. A. — Infrared optical properties of silicon dioxide films on silicon and infrared properties of silicon-silicon dioxide interface ..... 9033
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### Consolidated-Bathurst Limited

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- ROBINSON, D. B. W. — Development of new and improved papers manufactured by the Company. This includes newsprint, paper-board, linerboard, kraft paper and towelling ..... 9036

### Domtar Limited

- WHITTLE, D. J., BONNELL, A., RAMMUS, H., SHERRY, C. W. — Acoustic properties of building systems ..... 9037

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### Northern Electric Company Limited

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- COLTON, D. R., CHENG, Y. C., KRIEGLER, R. J., SHAEFFER, G. — Measurement of optical, dielectric and transport properties of dielectric films ..... 9042

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KASHA, M. — VLF/ELF satellite studies .....	9049
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Germanium crystal studies <sup>3</sup> .....	9052
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OSBORNE, F. J. F., NILSON, J.—Plasma probes in collisional regimes <sup>1</sup>	9055
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<sup>1</sup>With United States Air Force.

<sup>2</sup>With Defence Research Board.

<sup>3</sup>With Atomic Energy of Canada Limited.

<sup>4</sup>With Canadian annaments Research and Development Establishment.

## PHYSICS

### Computing Devices of Canada Limited

- MURPHY, J. R. B., BADHWAR, L. R., LAFEVER, J. G., PLETT, E. G.<sup>1</sup>  
— Thermodynamic and gasdynamic study of jet engine exhaust  
flow ..... 9057

### Spar Aerospace Products Limited

- KERR, H. S. — Selection of optical materials for operation in a space  
environment. The research relates to optical equipment which  
will be carried aboard Canadian satellites in the ISIS series for  
the investigation of earth atmospheric problems ..... 9058

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<sup>1</sup>Carleton University, Ottawa.

**ADDRESSES OF PARTICIPATING COMPANIES  
INCLUDING A SUMMARY OF  
REPORTED INDUSTRIAL RESEARCH FACILITIES**





## INDUSTRIAL RESEARCH FACILITIES

### ABITIBI PAPER COMPANY LTD.

Central Research Division, Sheridan Park, Ontario.

*President:* T. J. Bell.

*Fields of Interest:* Chemistry, physics, chemical and mechanical engineering studies relating to wood pulp, paper, hardwood and plywood, pollution and stream improvement, printability and converted products.

*Major Activity of Central Research Division:* R&D 90%, Testing and Evaluation 5%, Consulting 5%.

*Research Facilities:* Laboratory of 60,000 square feet opened in 1966. Beach laboratories, development laboratories, pilot plant, machine shop, library and related service facilities.

*Research Personnel:* R. M. Dorland, Director of Technical Development; K. G. Booth, Director of Research; E. G. Heslop, Associate Director of Research; D. F. Manchester, Manager of Process Research; J. R. Gunning, Manager of Paper Research; M. M. Yan, Manager of Panel-board Research; J. L. Stokes, Manager of Engineering Research and Services.

*Laboratory Staff:* Professional staff 28, male technicians and technologists 23, female technicians 10, service staff 22, summer students (4 in 1969).

*Recruiting Contact:* K. G. Booth.

### A.D.M. CHEMICALS

200 Fairbank Avenue, Toronto 19, Ontario.

*President:* S. A. Cooke.

*Fields of Interest:* Protective coating resins, plastics, specialty fatty chemicals, foundry sand binders.

*Major Activity of Company:* Mfg. 85%, R&D 5%, Testing and Evaluation 10%.

*Research Facilities:* A modern 3,000 sq. ft., air-conditioned laboratory. Instrumentation includes infrared and ultraviolet-visible spectrophotometers, a nuclear magnetic resonance spectrometer and an automatic recording titrator.

*Research Personnel:* R. C. Burrows, Ph.D.; J. B. Henstock, Ph.D.; M. F. Mallannao, B.Sc.; M. S. Butalia, M.Sc.; B. J. Budnark; E. A. Hanley.

*Laboratory Staff:* Senior chemists 2, junior chemists 2, technicians 1, summer students 1.

*Recruiting Contact:* R. C. Burrows.

## INDUSTRIAL RESEARCH FACILITIES

### AEROFALL MILLS LIMITED

2640 South Sheridan Way, Clarkson, Ontario.

*President:* Robert C. Meaders.

*Fields of Interest:* Mineral dressing, cement raw material processing. Industrial, natural and synthetic minerals processing.

*Major Activity of Company:* Mfg., R&D, Testing and Evaluation.

*Research Facilities:* New facilities now being equipped at Clarkson.

*Research Personnel:* R. R. Turner, Technical Director; Dr. H. D. Goodfellow, Senior Research Engineer.

*Laboratory Staff:* Laboratory superintendent 1, laboratory technician 2, research technician 2.

*Recruiting Contact:* Dr. H. D. Goodfellow.

### AEROQUIP (CANADA) LTD.

287 Bridgeland Avenue, Toronto 390, Ontario.

*President:* D. A. Rumgay.

*Fields of Interest:* Process and products mechanical, flexible piping connectors.

*Major Activity of Company:* Mfg. 95%, R&D 1%, Testing and Evaluation 4%.

*Research Facilities:* Necessary equipment for testing and evaluation of flexible piping components.

*Research Personnel:* H. A. Yamanaka; G. Hogarth.

*Laboratory Staff:* H. Hodder; C. Alksnis.

### AIRCRAFT APPLIANCES & EQUIPMENT LTD.

585 Dixon Road, Rexdale, Ontario.

*President:* L. V. Myslivec.

*Fields of Interest:* Manufacture of aircraft and industrial electrical systems, filtration and coalescing systems, motor generator sets.

*Major Activity of Company:* Mfg. 55%, R&D 5%, Testing and Evaluation 5%, Resales 35%.

*Research Facilities:* Electrical and hydraulic test laboratories environmental facilities for temperature and vibration.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* O. R. Havelka, P.Eng., Chief Engineer; V. Rizek, P.Eng., Engineer.

*Laboratory Staff:* Fluids 2, electrical and electronic 2, environmental 1.

*Recruiting Contact:* R. A. Bishop, P.Eng., Vice President, Engineering.

### ALCAN RESEARCH AND DEVELOPMENT LIMITED

P.O. Box 8400, Kingston, Ontario.

P.O. Box 6090, Montreal, Quebec.

*President:* Dr. J. F. Horwood.

*Fields of Interest:* Research and development in the field of aluminium and its alloys for the Alcan Aluminum Limited group of companies.

*Major Activity of Company:* R&D 80%, Testing and Evaluation 20%.

*Research Facilities:* Kingston, Ontario; Arvida, Quebec; Banbury, England.

*Recruiting Contact:* J. J. Lawless,  
c/o Aluminum Company of Canada, Limited,  
P.O. Box 6090, Montreal, Quebec.

### ALGOCEN MINES LTD.

(Subsidiary of the Algoma Central Railway)

144 Leo Avenue, Sault Ste. Marie, Ontario.

*President:* Mr. L. C. Waugh.

*Research Facilities:* Research work carried out, by or through Department of Materials Chemistry, Ontario Research Foundation.

*Research Personnel:* Donald E. Smith, Exploration Manager.

### THE ALGOMA STEEL CORPORATION, LIMITED

Sault Ste. Marie, Ontario, Canada.

*President:* Mr. D. S. Holbrook.

*Fields of Interest:* Iron ore mining plus fully integrated Steelworks facilities.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Raw materials and metals research laboratories at Sault Ste. Marie, Ontario.

*Research Personnel:* Dr. J. G. Morrow, Manager of Raw Materials Research;  
W. E. Creswick, Manager of Metals Research.

*Laboratory Staff:* Professional 6, technical 6.

*Recruiting Contact:* R. W. Baber, Employee Relations Department.

## INDUSTRIAL RESEARCH FACILITIES

### AMCHEM PRODUCTS INC.

2224 Walker Road, Windsor, Ontario.

*President:* G. C. Romig.

*Fields of Interest:* Metal treating chemicals, herbicides and plant growth regulators, adhesives, sealants, and specialty coatings.

*Major Activity of Company:* Mfg. 100%, R&D as required to support businesses listed above.

*Research Facilities:* Ambler, Pa.; Merlin, Canada; Detroit, Mich.; Philadelphia, Pa.; Greenville, Miss.; Clinton, Iowa; Visalia, Cal.

*Research Personnel:* Dr. F. M. Precopid, V. President and Corporate Technical Director; Dr. R. F. Reeves, Director R&D, Metal Treating Chemicals Division; Dr. S. N. Fertig, Director R&D, Agricultural Chemicals Division; W. P. Ellis, Director R&D, Benjamin Foster Division.

*Laboratory Staff:* Professionals 95, technicians 44, hourly 34.

*Recruiting Contact:* F. E. Wilson.

Amchem Products Inc., Ambler, Pa., 19002.

### AMPHENOL CANADA LIMITED

44 Metropolitan Road, Scarborough, Ontario.

*President:* Robert A. Ely.

*Fields of Interest:* Electro-mechanical componentry.

*Major Activity of Company:* Mfg. 90%, R&D 10%.

*Research Facilities:* 5,000 square feet in modern plant on 8 acres of property. Complete environmental and electrical laboratories. Extensive model shop.

*Research Personnel:* Jeff Tuchto, Director.

*Laboratory Staff:* T. Whitley, Supervisor.

*Recruiting Contact:* J. Muzzin.

### ANGLO-CANADIAN PULP AND PAPER MILLS LIMITED

10-16 Blvd. des Capucins, Quebec, P.Q.

*President:* W. E. Soles.

*Fields of Interest:* Research interests relate mainly to pulp, paper and chemicals.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 99.5%, R&D 0.5%.

*Research Facilities:* Central labs comprise 10,000 square feet which includes pilot pulping and bleaching facilities, testing and analytical laboratory, photographic, electronic, office and other services.

*Research Personnel:* O. Sepall, Director.

*Laboratory Staff:* Ph.D. chemical engineer 1, chemical engineers 8, chemist 1, photographer 1, librarian 1, supervisor technicians 3, technicians 13, pilot plant operators 3.

*Recruiting Contact:* Scott Smith.

### ANIMAL BREEDING CONSULTANTS LTD.

Box 932, Guelph, Ontario.

*President:* Dr. R. W. C. Stevens.

*Fields of Interest:* Turkey and beef cattle breeding.

*Major Activity of Company:* Consulting 100%.

*Research Personnel:* R. W. C. Stevens, Ph.D.; B. S. Reinhart, M.Sc.; A. E. Mitchell.

*Recruiting Contact:* R. W. C. Stevens.

### ANTHES EASTERN LTD.

(Division of Molsons Industries)

Head Office: 101 Hanson Street, Toronto, Ontario.

*General Manager:* Brian E. Judges.

*Fields of Interest:* Cast iron soil pipe and custom castings. Gas oil and electric furnaces and water heaters. Pressure and storage tanks. Petroleum dispensing equipment. Domestic oil burners. Construction heaters.

*Major Activity of Company:* Mfg. 97%, R&D 3%.

*Research Facilities:* Approximately 5,000 square feet of laboratory and engineering office space located in Toronto and St. Catharines.

*Research Personnel:* F. T. Taylor, Director of Research and Development; T. S. Warren, Product Engineering Manager; George Takata, Engineering Manager, Heating Products; Robert Smith, Product Designer; Eric Ledwinka, Product Engineer; Ron Gillespie, Product Designer; Jim Scollick, Product Engineer.

*Laboratory Staff:* R&D technicians 8, product supervisors 8.

*Recruiting Contact:* K. R. Cribb, P.Eng.

## INDUSTRIAL RESEARCH FACILITIES

### ATLAS STEELS COMPANY

(Division of Rio Algom Mines Ltd.)  
Centre Street, Welland, Ontario.

*President:* O. S. Leslie.

*Fields of Interest:* Manufacturing of tool, stainless and specialty steel products.

*Major Activity of Company:* Mfg. 100%..

*Research Personnel:* R. H. Read, Vice-President Research and Metallurgy; D. J. Knight, Manager R&D Department; R. O. Carson; T. Toomver; R. G. Graham; D. Siddell; D. Whittaker; R. Siddons W. Whitaker; C. Bouret; K. Crossland.

*Laboratory Staff:* Lab Foreman 1, technicians 8, stenographic-clerical 3, administration manager 1.

*Recruiting Contact:* Dr. R. H. Read.

### ATOMIC ENERGY OF CANADA LTD.

*Head Office:* Ottawa, Canada.

*Chalk River Nuclear Laboratories:* Chalk River, Ontario.

*Power Projects:* Sheridan Park, Ontario.

*Commercial Products:* P.O. Box 93, Ottawa, Ontario.

*Whiteshell Nuclear Research Establishment:* Pinawa, Manitoba.

*President:* J. L. Gray.

*Fields of Interest:* Atomic Energy of Canada Limited is responsible for research into development of peaceful uses of nuclear energy, as a contribution to the general welfare and in the interest of scientific and technological progress in Canada. AECL operates laboratories for fundamental and applied research and engineering development; designs and builds nuclear power stations, in co-operation with industry and utilities; provides nuclear consulting services as required; sponsors research and development projects in industry and the universities in the field of nuclear energy; makes available its special facilities and expertise to (i) assist industry and utilities in putting nuclear energy to practical use and (ii) assist the universities in nuclear studies; produces and markets radioactive isotopes for use in medicine, industry, agriculture and research; designs, manufactures and markets equipment for radioisotope use.

*Major Activity of Company:* Mfg., R&D, Testing and Evaluation, Consulting.



## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Research and Development sites at Chalk River, Ottawa; Sheridan Park, Ontario; and Pinawa, Manitoba.

*Laboratory Staff:* Chalk River Nuclear Laboratories — professional 465, technical 542; Power Projects—professional 235, technical 416; Commercial Products—professional 135, technical 110. Whiteshell Nuclear Research Establishment — professional 118, technical 170.

### ATOMIC ENERGY OF CANADA LTD., COMMERCIAL PRODUCTS P.O. Box 93, Ottawa, Ontario.

*Senior Executives:* J. L. Gray, President, Atomic Energy of Canada Limited.  
R. F. Errington, Vice-President, Commercial Products.

*Research Director:* Dr. A. B. Lillie.

*Fields of Interest:* Applications of radioactivity and radiation for medical, research and industrial purposes. Specific programs include: Medical application (therapy and diagnosis), industrial metrology (tracing, analysis, industrial consulting), food irradiation (preservation, growth stimulation), new materials (grafted textiles, polymer-wood composites), neutron applications (element analysis), radioisotope energy sources (conversion to heat or electricity). The work covers the applied research and development required to achieve economically or medically valuable applications of radioactivity.

*Major Activity of Company:* Mfg. 75%, R&D 25%.

*Research Facilities:* Gamma irradiation rooms, mobile and transportable irradiation units, hot cells and tracer laboratories, mobile industrial consulting laboratory, metallurgical laboratories, activation analysis facilities, electronics and measurement laboratories, visible, infrared and gamma spectrometers, computers, semiconductor preparation laboratory, food cold storage room, use of reactors and computers at Chalk River Nuclear Labs.

*Research Personnel:* Dr. A. B. Lillie, Director; F. G. Rice, D. L. Rowat, Staff Associates; Dr. K. J. Round, Dr. S. Dasgupta, D. R. Cowper, W. E. Downs, R. W. Tolmie, K. F. MacQueen, Program Leaders.

*Laboratory Staff:* Professional 30, technical 30, clerical and other assistance 9.

*Recruiting Contact:* C. W. Thompson, Head, Personnel Branch.

## INDUSTRIAL RESEARCH FACILITIES

### AUTOMATIC ELECTRIC (CANADA) LIMITED

100 Strowger Blvd., Brockville, Ontario.

*President:* C. R. Hughes.

*Fields of Interest:* Development and manufacture of communications switching systems and related equipment including telephone instruments, relays, power transformers, Strowger switches, printed wiring cards, precision mechanical assemblies, etc.

*Major Activity of Company:* Mfg. 78%, R&D 3%, Marketing 19%.

*Research Facilities:* 12,000 sq. ft. laboratory facilities attached to 355,000 sq. ft. plant in Brockville. Includes model shop, laboratories, computing facility, standards laboratory and office space.

*Research Personnel:* R. W. Duthie, Director of Research and Development.

*Laboratory Staff:* Engineers and specialists 14, technologists 9, technicians 8, draftsmen 3, clerical 2, students 2.

*Recruiting Contact:* G. A. Franklin, Industrial Relations Manager.

### AUTOTELIC INDUSTRIES LIMITED

(Peninsula Research & Development Division)

655 Garrison Road, Ft. Erie, Ontario.

*President:* E. H. Miller, Jr.

*Fields of Interest:* Educational devices, toys, electronic displays, communication, electro-optical controls.

*Major Activity of Company:* Mfg. 10% (production to be in other divisions), R&D 90%.

*Research Facilities:* 35,000 sq. ft., model shop, psychological evaluation laboratory (students observed and measured through one-way windows).

*Research Personnel:* Dr. Sheridan Speeth, Director of Research; Phillip Norem, Director of Engineering; William Wisniewski, Co-ordination Director.

*Laboratory Staff:* Clinton Newman.

*Recruiting Contact:* Wm. Wisniewski.

## INDUSTRIAL RESEARCH FACILITIES

### WALLACE BARNES COMPANY LIMITED

274 Sherman Ave. North, Hamilton 23, Ontario.

*President:* T. A. Harvie.

*Fields of Interest:* Design, development, and manufacture of mechanical springs, wire forms, small stampings, and assemblies incorporating spring-like parts.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Physical and metallurgical testing laboratories, corrosion testing facilities.

*Research Personnel:* J. L. Mollberg, P.Eng., Engineering Manager; D. H. Coit, C.E.T., Supervisor Product Engineering; R. Vinnall, Supervisor, Material Laboratory.

*Laboratory Staff:* Technicians 2 to 4.

*Recruiting Contact:* J. T. McDonald, Personnel Manager.

### BARRINGER RESEARCH, LIMITED

304 Carlingview Drive, Rexdale, Ontario.

*President:* Dr. A. R. Barringer.

*Fields of Interest:* Development, manufacture and sale of (a) air pollution measuring instruments, (b) geophysical exploration instruments. Research and Development of electro-optical techniques for instrumentation and remote sensing. R&D of in radio and electromagnetic methods of prospecting.

*Major Activity of Company:* Mfg. 20%, R&D 26%, Exploration Services 41%, Leases and Rentals 13%.

*Research Facilities:* UV, visible and IR spectrometers, 5,000 sq. ft. lab space allocated to R&D use. Low gradient magnetometer test facility Electro-optical laboratory. Photographic facilities. Electronic instrument development facilities.

*Research Personnel:* J. H. Davies, Acting Manager; W. Cox, Electronic Engineer; A. J. Moffatt, Electronic Engineer; J. D. McNeill, Senior Physicist; R. Dick, Physicist; J. Nor, Physicist; J. Motyka, Physicist; T. Routledge, Electronics Eng.; B. Bienenfeld, electronics Eng.; G. Levy, Optical Physicist.

*Laboratory Staff:* Electronics 10, physicists 2, mathematicians 2, draftsmen 3, machine shop 3, mechanical technicians 3, photographer 1, research pilot 1.

*Recruiting Contact:* J. Davies.

## INDUSTRIAL RESEARCH FACILITIES

### BEER PRECAST CONCRETE COMPANY LIMITED

110 Manville Road, Scarborough, Ontario.

*President:* F. A. Beer.

*Fields of Interest:* Concrete production technology: vibration and finishing techniques form design. New finishes.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Research and development and Quality Control labs.

*Research Personnel:* Peter Cover, Research and Development Superintendent; Mike Nash, Superintendent of Quality Control lab.

*Recruiting Contact:* Mike Nash.

### THE BORDEN CHEMICAL COMPANY (CANADA) LTD.

595 Coronation Drive, West Hill, Ontario.

*President:* Gerald J. Ray.

*Fields of Interest:* Formaldehyde, Aldehyde resins, Polyvinyl acetate, PVC films, Adhesives.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* Fully equipped laboratory for development and evaluation of company products.

*Research Personnel:* T. Larson, Technical Director; B. B. J. Wood, Assistant Chief Chemist; J. R. Mills, Technical Manager, Plastics; R. Miki, Chief Engineer.

*Laboratory Staff:* Chemists 6, engineers 3, PhD. (Chemistry) 1, technicians 6.

*Recruiting Contact:* T. Larson.

### BORG-WARNER (CANADA) LIMITED

(Long Manufacturing Division)

P.O. Box 608, Oakville, Ontario.

*President:* J. H. McCreery.

*Fields of Interest:* This company's field of interest is the development, manufacture and marketing of small heat exchangers, including automotive and agricultural radiators, oil coolers and heat exchangers for use in the agricultural, automotive and industrial fields.

## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 96%, R&D 3%, Testing and Evaluation 1%.

*Research Facilities:* Located at Malton and comprising over 14,000 sq. ft., include metallurgical, engineering design and manufacturing engineering facilities of pilot plant type.

*Research Personnel:* D. M. Donaldson, Vice-President and Dir. Engineering and Marketing; C. S. Argyle, Chief Engineer; E. D. Hart, Project Engineer; D. Rudd, Metallurgist.

*Laboratory Staff:* Technicians 3.

*Recruiting Contact:* J. S. Byatt, Personnel Mgr.

### BOWMAR CANADA LTD.

Box 4076, Station E, Ottawa, Canada.

*President:* Edward A. White.

*Fields of Interest:* Analog electromechanical components and solid state displays.

*Major Activity of Company:* Mfg. 90%, R&D 10%.

*Research Facilities:* Complete compound semiconductor processing and research laboratory.

*Research Scientists:* Dr. M. J. Russ, Director of R&D; Dr. D. I. Kennedy; D. Effer; M. A. Delaney; G. MacGregor.

### CAMPBELL SOUP COMPANY LTD.

(Agricultural Research Dept.)

R.R. 6, Brampton, Ontario.

*President:* J. M. Lindley.

*Fields of Interest:* Tomato breeding, tomato culture, potato variety evaluation, carrot variety evaluation, green bean variety evaluation, testing of herbicides on vegetable crops.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Laboratory at 5589 Hurontario Street, Mississauga, leased farm land at Streetsville, contracted farm land at Chatham.

*Research Personnel:* John F. Moore; Sam W. Squire.

*Laboratory Staff:* Mrs. C. Conn.



## INDUSTRIAL RESEARCH FACILITIES

### CANADA PACKERS LIMITED

95 St. Clair Avenue, West, Toronto 7, Ontario.

*President:* W. F. McLean.

*Fields of Interest:* Full line of meat products manufactured in plants across Canada; edible oil products, shortening, margarine, frying fat, salad oil; feeds for poultry, swine, beef and dairy animals; fine chemicals, pharmaceuticals, fatty acids, gelatine; leather; poultry products, cheese and miscellaneous.

*Major Activity of Company:* Mfg.

*Research Facilities:* The research facilities are located at 2211 St. Clair Ave. West, Toronto 9, Ont. These include 40,000 sq. ft. of laboratory space plus pilot plant facilities in oils, meats and fine chemicals. A new meat pilot plant (2,000 sq. ft.) was completed in 1969. A library, taste-panel area, animal rooms and other specialized facilities are provided.

*Research Personnel:* Leon J. Rubin, Director of Research; H. W. Barnett, Assistant Director of Research; P. Ziegler, Assistant Director of Research; R. Witty, Assistant Director of Research; G. W. Burgess, Laboratory Administrator; R. G. Donovan, Group Leader, Leather; T. F. Massiah, Group Leader, Chemical Development; F. M. Misiak, Librarian; H. R. Nordin, Group Leader, Meats; C. H. Perrin, Group Leader, Analysis Research; B. F. Teasdale, Group Leader, Oils; D. VanBinnendyk, Statistics.

*Recruiting Contact:* G. W. Burgess, Laboratory Administrator.

### CANADIAN CANNERS LIMITED

44 Hughson Street S., Hamilton, Ontario.

*President:* L. H. Johnston.

*Fields of Interest:* Processed fruits and vegetables, soups, catsup, pickles, jellies, marmalade, glaze fruit, other food specialties, and can manufacturing.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Completely equipped Food Research Laboratory.

*Research Personnel:* C. J. Ross, Research Manager.

*Laboratory Staff:* Chemists 10, microbiologists 3, technicians 6, other 3.

*Recruiting Contact:* R. G. Teasdale, Industrial Relations Manager.



## INDUSTRIAL RESEARCH FACILITIES

### THE CANADIAN COLEMAN CO. LTD.

9 Davies Avenue, Toronto 8, Ontario.

*President:* L. C. Whealy.

*Fields of Interest:* Outdoor and leisure time products, mobile home and recreational vehicle products, heating and air conditioning equipment.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* Fully equipped laboratory for liquid and gaseous fuel testing and recording.

*Research Personnel:* T. C. Hasting, P.Eng., Design Engineer; E. Zarga, Engineering Technician.

*Laboratory Staff:* E. Zarga, Engineering Technician; Ken Van Horne, Test Lab Technician.

*Recruiting Contact:* R. Howard.

### THE CANADIAN GAS ASSOCIATION

55 Scarsdale Road, Don Mills, Ontario.

*Managing Director:* W. H. Dalton.

*Fields of Interest:* Certification and testing laboratories, sponsorship of fuel-fired appliance standards, research and development for the gas industry.

*Major Activity of Company:* R&D 15%, Testing and Evaluation 65%, other 20%.

*Research Facilities:* Complete testing facilities for gas, oil and electrical appliances and accessories.

*Research Personnel:* H. Wank, Director, Laboratories and Engineering; R. L. Hay, Chief Engineer; J. A. Toms, Laboratory Engineer; L. H. Gilbert, Standards Engineer; J. Taneja, Project Engineer; H. Andersen, Research Technician; F. D. Williamson, Research Technician.

*Laboratory Staff:* Professional engineers 5, engineering technologists 3, technicians 10, other 4.

*Recruiting Contact:* Director, Laboratories and Engineering.

### CANADIAN GENERAL ELECTRIC COMPANY, LIMITED

214 King Street West, Toronto 1, Ontario.

*President:* J. H. Smith.

*Major Activity of Company:* R&D 7%, other 93%.

## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Facilities are decentralized and contiguous to manufacturing plants. The character and size of each facility is governed by the nature and type of products associated with each plant and its growth objectives.

*Recruiting Contact:* H. E. J. Holloway, Manager Engineering and Scientific Recruitment.

### CANADIAN INDUSTRIES LIMITED

(1) CIL Plastics Technical Centre,  
134 Kennedy Road South, Brampton, Ontario.

(2) Plastics Division,  
Canadian Industries Limited, P.O. Box 10, Montreal, Que.

*President:* Leonard Hynes.

*Fields of Interest:* Plastics Technical Centre is primarily concerned with the development of new or improved polyethylene resins or compounds, the evaluation of processing and physical characteristics and the development of improved methods of producing plastic films. Development of new uses for plastic films and packages.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Equipment duplicating the major fields of plastics processing, e.g. film making, wire and cable coating, paper coating, pipe making, etc. Supporting physical test laboratories and machine shop facilities. Equipment for evaluating new packaging methods and plastic film usages.

*Research Personnel:* J. A. Durno, Laboratory Manager; N. M. Peacock, Group Leader (Film); W. G. Sorochnan, Group Leader (Resin); J. Murray, Packaging Application Group Manager.

*Laboratory Staff:* Graduate technical staff 6, technicians, toolmakers, stenographers 27.

*Recruiting Contact:* J. A. Durno.

### CANADIAN JOHNS-MANVILLE CO. LTD.

West Hill P.O., West Hill, Ontario.

*President:* A. G. Sinclair.

*Fields of Interest:* Asbestos - cement pipes and fittings, asbestos - cement building materials, fiberglass and mineral wool insulation products, thermobestos insulating block and pipe covering, refractory and insulating cements.

## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 5%.

*Research Facilities:* Testing equipments available for R&D work — Universal Tinius Olsen and Scott Testers, Thermal conductivity, Freeze Thaw and Blister box, B.O.D. apparatus, Colorimeter, Spectrophotometer, pH meter, general analytical work, Cement and Asbestos fibre testing.

*Research Personnel:* L. P. Gardner, Quality Control Supervisor; A. Chaudhuri, Chief Chemist.

*Laboratory Staff:* Chemical Engineer 1, chemist 1, technicians 2.

*Recruiting Contact:* R. F. Winkworth, Industrial Relations Manager.

### CANADIAN KODAK CO., LIMITED

3500 Eglinton Avenue W., Toronto 15, Ontario.

*President:* R. L. Christie.

*Fields of Interest:* Investigation and development of photographic sensitized products, processes and equipment.

*Major Activity of Company:* Mfg. 94%, R&D 2%, Testing and Evaluation 4%.

*Research Facilities:* Laboratories situated throughout the manufacturing complex are used on a shared basis for research, development, and testing.

*Laboratory Staff:* Chemists and chemical engineers 29.

*Recruiting Contact:* Personnel Department.

### CANADIAN PITTSBURGH INDUSTRIES LIMITED

3730 Lake Shore Boulevard West, Toronto 14, Ontario.

*President:* Frank J. Doyle.

*Fields of Interest:* Protective and decorative organic coatings, polyester resins. Glass and metal products for construction trades.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Varied physical and chemical testing equipment including spectrophotometer, gas chromatograph, microscopes, etc.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* Dr. H. O. Farr, Vice-President Corporate Research & Development; E. D. MacLean, Director Technical Department; Lorne Carson, Director of Research, Metals; Baxter Stevenson, SQC Technician.

*Laboratory Staff:* Chemists 9, engineers 3, technicians 25.

*Recruiting Contact:* J. A. Finlayson (CPI, 48 St. Clair Ave. West, Toronto 195, Ontario).

## CANADIAN RESEARCH INSTITUTE

85 Curlew Drive, Don Mills, Ontario.

*President:* R. Spencer Soanes.

*Fields of Interest:* Instrumentation in electrical/electronic, chemical, optical and mechanical area. Design and fabrication of test and analyzing equipment, process control equipment, automatic testing devices. Custom R&D, testing and calibration services.

*Major Activity of Company:* Mfg. 55%, R&D 18%, Testing and Evaluation 8%, Consulting 12%, other 7%.

*Research Facilities:* 8,000 sq. ft., five labs, pilot production area, standards room, "clean" room.

*Research Personnel:* R. Spencer Soanes, M.A., M.C.I.C.; E. Manthey, M.I.E.E.

*Laboratory Staff:* Technicians R&D 5, service technicians 9.

*Recruiting Contact:* R. Spencer Soanes.

## CANADIAN SHIPBUILDING & ENGINEERING LIMITED

Huron Street, Collingwood, Ontario.

*Vice-President and General Manager:* W. A. Webster.

*Fields of Interest:* Electro-Hydraulic controls.

*Major Activity of Company:* Mfg. 10%, Shipbuilding 90%.

*Research Facilities:* Machine Shops and Heavy Machine Equipment.

*Research Personnel:* M. B. McMurray.

*Recruiting Contact:* M. B. McMurray, Chief Engineer.

## CANADIAN STRUCTURAL CLAY ASSOCIATION

4824 Yonge Street, Willowdale, Ontario.

## INDUSTRIAL RESEARCH FACILITIES

### CANADIAN WESTINGHOUSE COMPANY, LIMITED

Box 510, Hamilton, Ontario.

*President:* W. J. Cheesman.

*Fields of Interest:* Electrical and electronic equipment, air brakes, hydraulic drives, etc.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* Central research and development labs, with chemical, electrical, metallurgical and mechanical section. Electronics, divisional labs. Other divisional development labs.

*Research Personnel:* R. O. Morse, Manager, Research and Development Laboratories; W. A. Pieczonka, Manager, Solid State Section.

*Laboratory Staff:* Engineers and scientists 40, technicians 42, others 16.

*Recruiting Contact:* Mrs. I. Watson.

### CANRON LIMITED

1121 Place Ville Marie, Montreal, P.Q.

*President:* H. J. Lang.

*Fields of Interest:* Manufacturing iron and concrete products, electric motors and generators, railway maintenance equipment, structural steel fabricators and erectors, etc.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* R&D Dept., 60 Vulcan St., Rexdale, Ontario; 160 St. Joseph St., Lachine.

*Research Personnel:* W. F. Semenchuk, Rexdale, Ontario; W. J. Tyler, Lachine, P.Q.; J. N. Withers, Ville d'Anjou, P.Q.

*Laboratory Staff:* Lachine, P.Q. 3, Rexdale, Ontario 14.

*Recruiting Contact:* Various.

### CHAMPLAIN POWER PRODUCTS, LTD.

951 Martin Grove Road, Rexdale, Ontario.

*President:* P. W. Gooch.

### CHECKERBOARD FARMS LTD.

Ingersoll, Ontario.

*Fields of Interest:* Poultry breeding and processing.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* R&D 10%, Testing and Evaluation 10%.

*Research Facilities:* Diamond White Research Farm, New Hamburg, Ontario (hatchery, 32,000 sq. ft. brooding and growing barns, 64 pedigree breeding pens, 100 acres range).

*Research Personnel:* R. W. C. Stevens, Ph.D.; B. S. Reinhart, M.Sc.; L. Weeden; J. Givens.

*Laboratory Staff:* B. Hurdell; O. Capling.

*Recruiting Contact:* L. Weeden.

## CHRYSLER CANADA LTD.

P.O. Box 60, Windsor 19, Ontario.

*President:* R. W. Todgham.

*Fields of Interest:* Manufacture of cars, trucks, engine and related components.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Design and development staff working in the areas of transportation and material handling.

*Research Personnel:* J. J. Cale, Manager, Special Products Division; J. G. Thomson, Manager, Special Products Engineering.

*Recruiting Contact:* J. G. Thomson, Manager, Special Products Engineering.

## CHEMICAL PROJECTS, LIMITED

36 Greensboro Drive, Rexdale, Ontario.

*President:* Dr. Louis A. Pogorski.

*Fields of Interest:* Research and development in cryogenics, isotope analysis and separation, air pollution, geochemistry, explosives, trace gas analysis, gas purification. Generation of design data, technical and economic feasibility studies, development and fabrication of special instruments and equipment, geochemical and pollution surveys.

*Research Facilities:* 10,000 sq. ft. research laboratory consisting of analytical lab, physico-chemical lab, chemistry lab, instrument and electronics lab, chemical engineering lab, machine and fabrication shop. Equipment includes mass spectrometer, trace gas analyzer, chromatographs, synthesis trains, reactors, distillation and adsorption units, fully equipped machine shop, etc. Field testing facilities.



## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* Dr. L. A. Pogorski, Research Director; Dr. C. C. Chan, Mas Spectrometry; P. Williams, Physical Chemistry; E. Reimer, Geophysics; Dr. G. Galdi, Chemistry.

*Laboratory Staff:* Chemical engineers 1, mechanical engineers 1, physical chemists 1, chemists 2, geophysicists 1, technicians 6, other staff 10.

*Recruiting Contact:* B. Girard.

## COMPUTING DEVICES OF CANADA, LIMITED

P.O. Box 508, Ottawa 4, Ontario.

*President:* Mr. J. F. Taylor.

*Fields of Interest:* Research and Development — Avionics navigation and display systems, oceanics, anti-submarine warfare, photo-optical systems, tele-communications, military digital computer systems, industrial and scientific systems design, hypervelocity research and high “g” environmental telemetry.

*Major Activity of Company:* Manufacturing 64% : Research & Development 23% : Testing and Evaluation 10% : Consulting 3% .

*Research Facilities:* 65,000 square feet: Modern R&D building located near Ottawa. Supporting Services include: Drafting Facilities: Electronic Laboratories equipped with a variety of general and special purpose electronic testing equipment; fully equipped model shop; environmental testing chambers for electronic hardware; a Company-designed developed digital computer, SDS SIGMA 7 and IBM 360/30 Computers; and a Technical Library.

*Research Personnel:* R. R. Hoge, Vice-President, Research and Engineering; R. J. Patton, Director Avionic Development Division; J. M. DeVries, Director Research and Technology Division; T. F. Potts, Manager, Data Systems Analysis Department.

*Laboratory Staff:* A total of 93 graduate engineers or scientists with an average of 8 years’ professional experience: 8 hold Master’s degrees and 4 hold Doctorate degrees. Support staff consists of 292 technicians, technologists and administrators having an average of 14 years’ experience.

*Recruiting Contact:* R. R. Hoge, Vice-President, Research and Engineering.

## INDUSTRIAL RESEARCH FACILITIES

### CONSOLIDATED-BATHURST LIMITED

P.O. Box 69, Montreal 101, P.Q.

*President:* R. A. Irwin.

*Fields of Interest:* Kraft papers, kraft pulp (bleached and unbleached), paper towels, sanitary tissues, newsprint, paperboard, paper bags, plastic bags, bag packing equipment, corrugated containers, wooden boxes, wood-corrugated boxes, hardwood and softwood lumber, plastic squeeze tubes, plastic boxes and bottles, splicing films.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Research Centre consisting of laboratories and pilot plant located at Grand-Mere. Container research laboratories located at St. Laurent.

*Research Personnel:* Dr. Alan H. Vroom, Director of Research & Development; J. McK. Limerick, Associate Director of Research and Development; Dr. D. G. T. Cooper, Special Assistant to Director of Research and Development; T. G. Brandts, Assistant Director, Product Development Div.; Dr. A. M. Ayroud, Manager, Chemical Pulping; H. W. H. Jones, Manager, Mechanical Pulping; Dr. D. B. W. Robinson, Manager, Papermaking; B. B. Mithel, Manager, Packaging Research.

*Laboratory Staff:* Chemists 12, physicists 4, engineers 13, supporting technical 47, library & patents 2, administrative, clerical and maintenance 14.

*Recruiting Contact:* Dr. D. G. T. Cooper.

### CROWN ZELLERBACH CANADA LIMITED

1030 West Georgia Street, Vancouver, B.C.

*President:* R. G. Rogers.

*Fields of Interest:* Pulp and paper, lumber, plywood.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Building Materials Research and Development Laboratory, 1345 Vulcan Way, Richmond, B.C.

*Research Personnel:* Dr. F. O. Whipple, Director, Research and Development; F. H. Milligan, Manager, Process Engineering; K. W. Lawrence, Manager, New Product Development; F. R. Varseveld, Manager, Technical Services.

*Laboratory Staff:* Professional 6, technical 7, administrative 1.

*Recruiting Contact:* Dr. F. O. Whipple, Director Research and Development.

## INDUSTRIAL RESEARCH FACILITIES

### DENVER LABORATORIES (CANADA) LIMITED

451 Alliance Avenue, Toronto 334, Ontario.

*President:* Carleton Ashley.

*Fields of Interest:* Investigation of the basic mechanism underlying the ability of chymotrypsin and other proteolytic enzymes to enhance drug absorption, distribution, and activity.

*Research Facilities:* Complete facilities for biological and chemical research and analysis.

*Research Personnel:* Dr. R. I. Ramirez; Mrs. M. Syed; Dr. H. J. Grossman.

*Laboratory Staff:* Mrs. M. Ronchi; H. Morgan.

*Recruiting Contact:* Dr. Alan Wohlman, Director of Research.

### DESITRON COMPANY LIMITED

198 Hymus Road, Scarborough, Ontario.

*President:* Folke A. Walther.

*Fields of Interest:* Industrial heating and drying of microwave miniaturization of certain components.

*Major Activity of Company:* Mfg. 70%, R&D 15%, T&E 10%, Consulting 5%.

*Research Facilities:* Low Power Test Facilities from 1 GC-24 GC 5KW CW Tests in Heating region.

*Research Personnel:* D. J. Rosowsky; E. Minkus.

*Laboratory Staff:* Draftsman 1, technician 1.

*Recruiting Contact:* W. B. Scott, General Manager.

### DILWORTH, SECORD, MEAGHER AND ASSOCIATES, LIMITED

4195 Dundas Street, West, Toronto 18, Ontario.

*President:* P. B. Dilworth.

*Fields of Interest:* All phases of engineering, analysis, design, supervision, development, testing and research. Specialty areas include aeronautical, nuclear and industrial engineering with emphasis upon the design of research facilities and specialized mechanical equipment. Research activities are concentrated in the same general areas.

*Major Activity of Company:* R&D 20%, Consulting 80%.

## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* IBM 1130 computer. R&D laboratory includes variety of special test equipment and rigs and an industrial wind tunnel. Supporting services include general purpose instrumentation and test equipment, electronics laboratory, machine shop, etc.

*Research Personnel:* R. P. Bell; I. J. Billington; G. F. Bremner; W. S. Brown; P. J. Clark; G. W. S. Gordon; H. Goulding; M. L. Nixon; J. A. Rayfield; K. Sampath; V. Smiltnieks; J. Stambolich; L. J. P. Tillson; Dr. L. A. Wright.

### THE DOBBIE INDUSTRIES LIMITED

104 Water Street North, Galt, Ontario.

*President:* George H. Dobbie.

*Fields of Interest:* Textiles: basically cotton, woven and worsted spinning, terry weaving, upholstery weaving, bed spread weaving, knitting (both circular and warp).

*Major Activity of Company:* Mfg. 80%, R&D 10%, Testing and Evaluation 10%.

*Research Facilities:* Two chemical labs and two physical labs.

*Research Personnel:* B. Fehertoi; J. Thurston; T. Muramtsu; J. Galbraith.

*Laboratory Staff:* J. Fairless and six staff.

*Recruiting Contact:* A. W. Stevenson, Director of Personnel.

### DOMINION BRIDGE COMPANY LIMITED

555 Notre Dame Street, Lachine, Quebec.

*President:* M. McMurray.

*Fields of Interest:* Design fabrication and erection of bridges, buildings, pressure vessels and other heavy engineering structures.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Metallographic and mechanical testing equipment and a variety of welding and support equipment.

*Research Personnel:* G. Cape, Manager of Technical Research; L. Jehu, Welding and Research Engineer.

*Laboratory Staff:* Engineers (Metallurgical) 4, technicians 3.

*Recruiting Contact:* Requirements for staff are minimal and we do our own recruiting as required.

## INDUSTRIAL RESEARCH FACILITIES

### DOMINION COLOUR CORPORATION LIMITED

199 New Toronto Street, Toronto 510, Ontario.

*President & General Manager:* D. Robb.

*Fields of Interest:* Manufacture of synthetic coloured inorganic and organic pigment.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Approximately 3,600 sq. ft. of laboratory area is equipped with facilities for laboratory preparation of pigments and with a variety of equipment for the dispersion and evaluation of pigments in various media.

*Research Personnel:* J. S. Wright, B.Sc. (Tech.) Technical Director; J. H. Hockin, M.A.; W. H. McMillan, B.S.A.; J. Polos, B.A.Sc.; V. Kulkarni, B.Sc.; S. A. Khan, B.Sc.; S. Elphick, M.C.I.C.

*Laboratory Staff:* Chemists 7, technicians 13.

*Recruiting Contact:* J. S. Wright, Technical Director.

### DOMINION MAGNESIUM LIMITED

Plant Office — Haley, Ontario.

Head Office & Sales Office — 7 King Street, Toronto, Ontario.

*Vice-President & General Manager:* J. Thomson.

*Plant Manager:* D. J. McPhail.

*Fields of Interest:* Magnesium and calcium primary production, direct chill cast magnesium alloy billets & rolling slabs, extrusion facilities, pilot plant operations for the production of Titanium, Zirconium, Thorium, Barium and Strontium.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Metallurgical laboratory and chemical laboratory at Haley, Ontario. Metallurgical laboratory employs 24 people and the chemical laboratory 10. Equipped for both process control and research.

*Research Personnel:* H. A. Timm, B.Sc., Plant Metallurgist; A. Froats, B.Sc.; T. J. Patel, M.Sc.; H. Hamilton, Technician; John Howard, Technician; T. O'Gorman, Technician.

*Laboratory Staff:* G. J. Kurkoski; S. T. Kasaboski, Plant Chemist.

*Recruiting Contact:* W. J. Johnston.



## INDUSTRIAL RESEARCH FACILITIES

### DOMINION STEEL & COAL CORP. LTD.

Head Office — P.O. Box 249, Montreal, Que.

Montreal Works — P.O. Box 67, Montreal, Que.

Contrecour Works — P.O. Box 100, Contrecour, Que.

Etobicoke Works — P.O. Box 500, Rexdale, Ontario.

*President:* J. P. Gignac.

*Fields of Interest:* Production of iron and steel products from raw materials through finished product. Electric furnace steel production (strand casting)—sheet steel, structural steel, rod, bar, and wire products and welded pipe.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* In plant process development and research for product quality improvement, process improvement, new product development and cost improvement.

*Research Personnel:* Montreal Works, F. E. Ellis, Contrecour Works, J. G. Evans; Etobicoke Works, R. H. Carling; Executive Office, W. F. Zepfel.

*Laboratory Staff:* Engineers 15.

*Recruiting Contact:* W. F. Zepfel.

### DOMTAR LIMITED

Research Centre, Senneville, Quebec.

*President:* T. N. Beaupré.

*Fields of Interest:* Pulp and paper products including newsprint, fine papers, cartons, plastics; Chemicals—coal tar products, lime, salt, metal powders and wood preservatives. Building materials—bricks, roofing materials, lightweight concrete, fibre products, gypsum and lumber.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Domtar Limited, Research Centre, Senneville, Que. consisting of laboratories and pilot plants located at Senneville, Quebec (suburb of Montreal).

*Research Personnel:* Dr. G. H. Tomlinson, Research Director; Dr. H. B. Marshall, Associate Research Director; G. Parent, Head, Administration; Dr. O. L. Forgacs, Head, Pulp and Paper and Allied Building Products Section; Dr. E. J. Tarlton, Head, Chemicals and Allied Products Section; Dr. D. J. Whittle, Head, Engineering and Development Section.

*Laboratory Staff:* Professional 53, technical 62, administrative 13.

*Recruiting Contact:* Dr. H. B. Marshall, Associate Research Director.



## INDUSTRIAL RESEARCH FACILITIES

### DOUGLAS AIRCRAFT COMPANY OF CANADA LTD.

Toronto A.M.F., Ontario.

*President:* Donald W. Douglas, Jr.

*Fields of Interest:* Aircraft Manufacturers.

*Research Facilities:* Canadian Defense Forces Approved Laboratory.

*Research Personnel:* C. R. Lee, Chief Materials and Process Engineer.

*Recruiting Contact:* J. R. Brooks, Chief Administrative Engineer.

### DOW CHEMICAL OF CANADA, LIMITED

Sarnia, Ontario.

*President:* L. D. Smithers.

*Fields of Interest:* Manufacture of chemicals, plastics and pharmaceuticals.

*Research Facilities:* Research, development and pilot plant facilities located at Sarnia and Edmonton.

*Research Personnel:* B. B. Hillary, Research Manager; H. W. Quinn, Assistant Research Manager; D. M. Young, Assistant Research Manager.

*Recruiting Contact:* A. Korpan, Industrial Relations.

### DOWTY EQUIPMENT OF CANADA LIMITED

239 Station Road, Ajax, Ontario.

*President:* R. F. Hunt.

*Fields of Interest:* Industrial: Industrial and vehicle hydraulic devices and controls, tension rendering winches. Aerospace: Aircraft landing gears, hydraulic accessories, fuel pumps, wheels, brakes and anti-skid and brake control devices.

*Major Activity of Company:* Mfg. 95%, Testing & Evaluation 5%.

*Research Facilities:* Mechanical and hydraulic test equipment including two landing gear drop test machines, 60 ton capacity 60 foot tower for dead weight testing, two cold temperature test chambers, vibration and tensile test equipment.

*Research Personnel:* N. P. Tolley, Chief Engineer; E. W. Waring, Head of Test Department.

*Laboratory Staff:* Professional engineers 1, engineering technologists 2, technicians 6.

*Recruiting Contact:* Mrs. M. Waude.

## INDUSTRIAL RESEARCH FACILITIES

### DUNLOP RESEARCH CENTRE

Sheridan Park, Ontario.

*General Manager:* N. S. Grace.

*Assistant General Manager:* J. A. Carr.

*Fields of Interest:* Studies of polymerization and polymer properties.

*Major Activity of Company:* R&D 95%, Testing and Evaluation 5%.

*Research Facilities:* About 20,000 sq. ft. laboratories, office etc.

*Research Personnel:* Dr. G. A. Pope, Manager, Chemical Research; A. D. Dingle, Manager, Physical Research.

*Laboratory Staff:* About 20 graduates with equal number of technicians and supporting staff.

*Recruiting Contact:* H. G. Deline, Manager, Administration.

### DU PONT OF CANADA LIMITED

P.O. Box 660, Montreal 101, Quebec.

*President:* Edgar H. Bleckwell.

*Fields of Interest:* Chemicals — adipic acid, adiponitrile, hexamethylene diamine, cyclohexanone, cyclohexanol, surface active agents, "Freon" fluorocarbons, hydrochloric acid and hydrogen peroxide. Explosives—Commercial explosives and blasting agents. Films—"Cellophane" cellulose film, "Sclairfilm" polyolefin films, packaging and industrial polyethylene films, "Vexar" plastic netting, "Tynex" and "Herex" nylon monofilament and "Fabrene" woven tape structures. Finishes—"Duco", "Dulux" and "Lucite" finishes for the automotive original equipment and refinish markets. Plastics—"Sclair" polyolefin resins and "Sclairpipe" polyethylene pipe. Fibres—Nylon continuous filament yarns and staple fibre including "Antron" nylon and "Cantrecre" nylon, "Orlon" acrylic fibre and "Lycra" spandex fibre.

*Major Activity of Company:* Manufactured with supporting R&D.

*Research Facilities:* Central Research Laboratory, Kingston, Ont., and Central Research Laboratory, Maitland, Ont. with laboratory and pilot plant facilities. Laboratories for applied research and development, particularly associated with manufacturing at Sarnia, Ajax, Whitby, Kingston, Maitland, Nipissing and Shawinigan Works. Customer development projects for Customer Technical Centre, Kingston.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* Dr. H. F. Hoerig, Vice-President, Research & Development; Dr. O. C. W. Allenby, Manager, Research Division; Dr. J. M. Stewart, Manager, Central Research Laboratory, Kingston; Dr. J. Klassen, Manager, Central Research Laboratory Maitland; Dr. E. R. Morton, Technical Superintendent, Plastics Division; A. H. Gowen, Technical Manager, Finishes Division; G. Perris, Technical Manager, Fibres Group; K. E. Irvine, Research & Development Manager, Home Furnishings and Tire & Industrial Divisions; R. F. Walker, Research & Development Manager, Textile Division; W. E. Macfarlane, Research & Development Manager, Nylon Intermediates and Polymer Divisions; R. V. Robinson, Research & Development Manager, Explosives Division; W. E. Bell, Manager Plastics Group, Customer Technical Centre; G. R. Biddle, Manager Films Group, Customer Technical Centre; D. J. Crawford, Manager Fibres Group, Customer Technical Centre; G. L. Armstrong, Manager Chemicals Group, Customer Technical Centre.

*Laboratory Staff:* In 1968 there were 198 technical employees.

*Recruiting Contact:* S. W. Albright, Personnel Manager, Employee and Public Relations Department, Head Office, Montreal.

### EDWARDS OF CANADA

Box 430, Owen Sound, Ontario.

*President:* R. A. Yates.

*Fields of Interest:* Solid state signalling devices and systems.

*Major Activity of Company:* Mfg. 95%, R&D 2%, Consulting 2%, Other 1%.

*Research Facilities:* Small lab. with usual scopes, signal generators and measuring devices.

*Research Personnel:* R. G. Long; R. D. Scott.

*Laboratory Staff:* M. Ha; M. Nikolich (part time).

*Recruiting Contact:* G. W. MacDonald, Chief Eng.

### ELDORADO NUCLEAR LTD.

151 Slater Street, Ottawa, Ontario.

*President:* W. M. Gilchrist.

*Fields of Interest:* Uranium mining, milling and refining. Production of nuclear grade Zirconium metal.

## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* R&D 5%, Mining and Refining 95%.

*Research Facilities:* Metallurgical Laboratory at Ottawa, Ontario. Research and Development Group at Port Hope, Ontario. Mill Testing Laboratory at Eldorado, Saskatchewan.

*Research Personnel:* Gordon F. Colborne, Manager, R&D; Frank W. Melvanin, Superintendent, New Product Development; John M. Jardine, Laboratory Superintendent; J. Laurie Hart, Assistant Superintendent, Laboratories.

*Laboratory Staff:* Chemists and chemical engineers 12, metallurgists and metallurgical engineers 5, civil engineer 1, laboratory technicians 28, secretarial and library personnel 4.

*Recruiting Contact:* G. F. Colborne, Manager, R&D Division.

### ELECTRIC REDUCTION COMPANY OF CANADA LIMITED 155 Etobicoke Drive, Islington, Ontario.

*President:* Lloyd G. Lillico.

*Fields of Interest:* Elemental phosphorus and various industrial phosphates, notable sodium tripolyphosphate. Phosphatic fertilizers and feed supplements. Chemicals used in the pulp and paper industry, notably sodium chlorate and chlorine dioxide.

*Major Activity of Company:* Mfg. 100%

*Research Facilities:* Approximately 12,000 sq. ft. of laboratory and pilot plant space located at 155 Etobicoke Drive, Islington.

*Research Personnel:* R. M. O. Maunsell, Senior Technical Advisor to the President; J. D. McGilvery, Manager, Research and Development Laboratories; A. B. Foster, Manager, Research Department; G. E. Tafler, Manager, Process Development Department; H. Freedman, Manager, Pulp and Paper Research.

*Laboratory Staff:* Chemists 4, engineers 1, technicians 11, other 2.

*Recruiting Contact:* C. P. Quinn.

### ESCOTT BUILDING CORPORATION LIMITED Suite 15, 3625 Weston Road, Weston, Ontario.

*President:* George K. Escott, P.Eng.

*Fields of Interest:* Design, fabrication, erection, methodology in respect to prefabrication of building components.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* R&D 40%, Testing and Evaluation 10%, Consulting 50%.

*Research Facilities:* Library. Shop and equipment for process study and evaluation, access to and liaison with nearby commercial testing laboratories.

*Research Personnel:* George K. Escott, P.Eng.

*Laboratory Staff:* As required.

*Recruiting Contact:* George K. Escott, P.Eng.

EX-CELL-O CORP. OF CANADA LTD.  
P.O. Box 3535, London, Ontario.

*Vice-President:* Wm. Sawruk.

*Fields of Interest:* Product improvement by prototype test and evaluation. Standard general purpose machine tools.

*Major Activity of Company:* Mfg. 94%, R&D 2%, Testing and Evaluation 2%, Consulting 2%.

*Research Facilities:* 1000 sq. ft. of floor space with test equipment related to above.

*Research Personnel:* R. M. Bell, Chief Engineer.

*Laboratory Staff:* Technician 1.

*Recruiting Contact:* R. M. Bell.

FAIRGRIEVE & SON LIMITED  
44 Dovercourt Road, Toronto 145, Ontario.

*President:* Doug M. Fairgrieve.

*Fields of Interest:* Manufacturer of home laundry equipment (wringer washing machines, automatic washing machines and clothes dryers).

*Major Activity of Company:* Mfg. 99%, Engineering and Development 1%.

*Engineering Personnel:* Donald F. Fairgrieve; T. Katoaka; K. Weldon.

*Recruiting Contact:* Mrs. M. Doyon.

## INDUSTRIAL RESEARCH FACILITIES

### FALCONBRIDGE NICKEL MINES, LIMITED

7 King Street East, Toronto, Ontario.

*President:* Marsh A. Cooper.

*Fields of Interest:* Mining, extraction and refining of metals.

*Major Activity of Company:* Mfg. 96%, R&D 4%.

*Research Facilities:* Fully equipped laboratories and pilot plants for development and evaluation of processes and products. Chemical, Spectrochemical, and Mineralogical laboratories.

*Research Personnel:* F. R. Archibald, Vice-President, Metallurgy and Research; H. T. Berry, Assistant Vice-President, Metallurgy and Research; P. G. Thornhill, Director of Research; C. L. Lewis, Manager, Metallurgical Laboratories; R. A. Bergman, Assistant Manager, Metallurgical Laboratories; Simon Fekete, Assistant Chief Metallurgist.

*Laboratory Staff:* Engineers—Metallurgical 20, chemical 5, geological 2, engineering physics 1. Scientists—chemical 4, metallurgical 2, geological 1, physicist 1, spectrochemist 1. Technicians—metallurgical 43, chemical 8, spectrochemical 3, mineralogical 2, electronics 1. Other 21.

*Recruiting Contact:* W. E. Burrows.

### FERRO ENAMELS (CANADA) LIMITED

354 Davis Road, Oakville, Ontario.

*President:* A. D. Langmuir.

*Fields of Interest:* Porcelain enamels, ceramic glazes and colours, glass and plastic colours, polyester gel coats, plastic stabilizers, furnace and kiln construction, Kanthal heating elements.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Ten fully equipped laboratories and some pilot plant facilities.

*Research Personnel:* T. E. Howarth, Technical Director; H. J. Ronne, Technical Manager, Inorganics; A. A. Arcari, Technical Manager, Organics.

*Laboratory Staff:* Chemical graduates 3, technicians 17.

*Recruiting Contact:* T. E. Howarth.



## INDUSTRIAL RESEARCH FACILITIES

### FIBERGLAS CANADA LIMITED

Head Office: 48 St. Clair Ave. W., Toronto 7, Ontario.

Technical Centre: Sarnia, Ontario.

Plants: Insulation—Sarnia, Ontario, Edmonton, Alta., Montreal, P.Q.

Textile—Guelph, Ontario.

*President:* A. J. Fisher.

*Fields of Interest:* Research and Development in the area of fibrous composite materials (glass and other fibres, bonding materials, reinforced composites).

*Major Activity of Company:* Mfg. 97%, R&D 2.0%, Testing and Evaluation .5%, other .5%.

*Research Facilities:* Materials Research and Development—Technical Centre, Sarnia, Ontario. Insulating Product Development—Sarnia, Ontario. Textile (Reinforcing) Products Development—Guelph, Ontario.

*Research Personnel:* F. W. Henkelman, B.Sc. Mech. Eng., Vice-President Research and Engineering; K. P. Gladney, B.Sc. Chem. Eng., Manager, Research, Devel. and Control; F. W. Maine, Ph.D., Manager, Materials Research and Development; R. P. Rao, Ph.D., Inorganic Chemical Research; M. K. Peters, Ph.D. Analytical Research and Services; H. J. Bartlett, B.Sc., General Products Development.

*Laboratory staff:* R&D professionals 9, R&D technicians 9, Product Standards and Evaluation professionals 1, technicians 5.

*Recruiting Contact:* D. J. Mattason, Manager, Industrial Relations.

### FLEET MANUFACTURING LIMITED

Box 300, Fort Erie, Ontario.

*President:* R. K. Fraser.

*Fields of Interest:* Airframe manufacturing, design and development and manufacture of sonar and radar. Design, development and manufacture of hardware in the field of Oceanology. Research and development of new materials and techniques in the Aerospace field.

*Major Activity of Company:* Mfg. 99%, R&D 1%.

*Research Facilities:* At the present moment consist of material testing facility (incl. X-Ray) and instrumentation for strain gauges, for load cell and for pressure monitoring. We also have a Wang desk computer with 4 outlets and access to a large computer.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* A. S. Zakrzewski, P.Eng.; J. E. Barker, P.Eng.; Mrs. K. McCreath, M.Sc.; Walter Pfeiffer, P.Eng., Consultant. Several members of the Design Office partially engaged in R&D.

*Laboratory Staff:* No full time staff.

*Recruiting Contact:* H. Hagan, Personnel Manager.

### FLUID POWER LIMITED

282 Belfield Road, Rexdale, Ontario.

*President:* W. L. Hutchison.

*Fields of Interest:* Hydraulic Systems and controls, fluidics, seals, composite plastics, filament winding, hydraulic acceleration.

*Major Activity of Company:* Mfg 95%, R&D 5%.

*Research Facilities:* New laboratory just completed with capability for experimentation, testing, measurement, in hydraulic and fluidics fields including high pressures. Also facilities for filament winding.

*Research Personnel:* E. Davison, Research Director; A. Van Eyken, Research Engineer.

*Laboratory Staff:* Technicians 3.

*Recruiting Contact:* E. Davison.

### GARRETT MANUFACTURING LIMITED

255 Attwell Drive, Rexdale, Ontario.

*Vice-President:* W. C. Tate.

*Fields of Interest:* Temperature control systems, static inverters, radio emergency beacons and downed aircraft locators, pneumatic signal generators, hybrid micro circuits and precision thin film resistor elements. Garrett marine products: automatic mooring wench, towing machine, self-propelled vehicle.

*Major Activity of Company:* Mfg. 73%, R&D 15%, Testing and Evaluation 2%, other 10%.

*Research Personnel:* R. J. Richardson; B. W. Atkinson; C. D. Hickling; G. W. Rose; R. S. Sennett; H. A. Bisset; T. Tamagi; A. Gahunia; S. Zutrauen; R. Marshall M. Bernard C. Prince P. Gill; P. Kershaw; A. Vindasius; J. Cameron; L. Pytel; N. Bell; R. Brown; N. Justice.

*Laboratory Staff:* Chief of Engineering Services 1, environmental test supervisor 1, engineer associate 1, technicians — electrical-mechanical 4, supervisor of engineering support 1.

*Recruiting Contact:* M. E. White, Industrial Relations Manager.

## INDUSTRIAL RESEARCH FACILITIES

### GENERAL CONCRETE LIMITED

Highway 20 and Q.E. Way, P.O. Box 3246, Station "C", Hamilton, Ontario.

*President:* P. J. Pennachetti.

*Fields of Interest:* Concrete technology, cement technology, adhesives used in building construction, concrete finishes (organic and inorganic).

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 5%.

*Research Facilities:* Fully equipped concrete and cement testing and research laboratory.

*Research Personnel:* J. T. Pennachetti, Board Chairman; J. F. Boux, Chief Engineer; D. Gray, Quality Control Superintendent.

*Laboratory Staff:* Research assistants, quality control 2.

*Recruiting Contact:* J. E. Gammage, Executive Assistant.

### GENERAL FOODS LIMITED

2200 Yonge Street, Toronto 12, Ontario.

*President:* R. S. Hurlbut.

*Fields of Interest:* Powdered dessert and beverage mixes, coffees, chocolate products, processed cereals, rice and pet foods, potato chips and snack products, away-from-home foods and service.

*Major Activity of Company:* Mfg., R&D (internal).

*Research Facilities:* Laboratory and pilot plant located at 520 William St., Cobourg, Ontario, and 795 90th Avenue, LaSalle, P.Q.

*Research Personnel:* W. R. Mason, FCIC, Manager of Technical Resources; Dr. T. A. Watts, Research Manager; K. M. Torrie, Laboratory Manager (Cobourg); W. R. Waring, Laboratory Manager (LaSalle).

*Laboratory Staff:* Chemists and food scientists 19, chemical engineers 6, microbiologists 2, support staff 28.

*Recruiting Contact:* T. A. Watts.

### GEOPHYSICAL ENGINEERING & SURVEYS LIMITED

Box 49, Toronto-Dominion Centre, Toronto, Ontario.

*President:* N. B. Keevil, Jr.

*Fields of Interest:* Minerals exploration, using geologic, geophysical and geo-

## INDUSTRIAL RESEARCH FACILITIES

chemical techniques. Airborne electromagnetics: research with Baringer Research Limited. Airborne gamma-ray spectroscopy: research with McPhar Geophysics Limited.

*Major Activity of Company:* R&D 10%, Testing and Evaluation 10%, Consulting 80%.

*Research Facilities:* Small all-wood building for electromagnetic experiments. Office space in Toronto-Dominion Centre for computer programming for data reduction and interpretation.

*Research Personnel:* D. C. Fraser, Ph.D.

*Laboratory Staff:* Technologist - electronic 1, technologist - electronic in training 1.

*Recruiting Contact:* M. M. Steiner.

### GLIDDEN COMPANY

Division of SCM (Canada) Limited  
351 Wallace Avenue, Toronto 9, Ontario.

*President:* J. W. Fowler.

*Fields of Interest:* Manufacture and sale of protective and decorative coatings, resins, latices, adhesives, caulking compounds.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* 12,000 sq. ft. laboratory area. Analytical and testing facilities.

*Research Personnel:* F. L. Steele, Technical Director; Dr. G. G. Davis, Assistant Technical Director; Dr. M. Heskins, Scientist.

*Laboratory Staff:* About 30 chemists, engineers and technicians.

*Recruiting Contact:* W. E. Lennox.

### GOULD-NATIONAL BATTERIES OF CANADA, LIMITED

275 Lewis Street, Fort Erie, Ontario.

*President:* R. G. Neill.

*Fields of Interest:* Fuel cells, Nickel-Zinc batteries.

*Major Activity of Company:* Mfg. 96%, R&D 4%.

*Research Facilities:* Fully equipped electro-chemical laboratory.

*Research Personnel:* Dr. Konakanchi V. N. Rao; K. Bukatko; Bobba Arabininda Ghosh; Gummadi Venkata Ramaiah.

*Laboratory Staff:* J. Fisher; T. Miskolczi.

*Recruiting Contact:* Dr. Konakanchi V. N. Rao.

## INDUSTRIAL RESEARCH FACILITIES

### W. R. GRACE & CO. OF CANADA LTD.

Cryovac Limited

2365 Dixie Road North, Mississauga, Ontario.

*President:* W. G. Lewitt (G.M.).

*Fields of Interest:* Plastic Packaging, plastic and rigid.

*Major Activity of Company:* Mfg. 97%, R&D 3%.

*Research Facilities:* Offices, laboratory, irradiation facility.

*Research Personnel:* R. A. Bolton; J. S. Keleher; C. M. Lulham; D. G. Wallwork.

*Laboratory Staff:* H. Alksnys; M. H. Campbell.

*Recruiting Contact:* W. P. Kelly.

### THE GREAT LAKES PAPER COMPANY, LIMITED

P.O. Box 430, Fort William, Ontario.

*President:* C. J. W. Fox.

*Fields of Interest:* Chemical and mechanical pulping of wood, bleaching of wood pulp, papermaking, improvement in air and water effluents.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* 5,000 square feet of laboratory, including 2-cubic-foot pilot-plant digester.

*Research Personnel:* Dr. Gordon A. Allen, Director of Research and Development; R. P. Belluz, Supervisor, Pulping Research; E. S. Chang, Supervisor, Bleaching Research; F. B. Johnson, Supervisor, Testing and Analysis.

*Laboratory Staff:* Professionals 4, technologists 5, technicians 4.

*Recruiting Contact:* Dr. Gordon A. Allen, Director of Research and Development.

### GREENING INDUSTRIES LIMITED

55 Queen Street North, Hamilton, Ontario.

*President:* H. S. Baldwin.

*Fields of Interest:* Wire rope technology including extra high strength wire rope, swaged rope, prestressed wire rope and strand for buildings, specialized wire rope and strand assemblies. Wire and wire products technology.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 95%, R&D 3% Testing and Evaluation 2%.

*Research Facilities:* New laboratory with X-Ray spectrograph and diffractometer and other equipment for chemical and metallurgical analysis. Physical testing equipment including 600,000 lb. tensile test machine.

*Research Personnel:* Vice-President of engineering plus research and development personnel.

*Laboratory Staff:* Metallurgical lab 3, physical testing lab 2.

*Recruiting Contact:* F. Kehoe, Personnel Manager.

## GRIFFITH LABORATORIES, LIMITED

757 Pharmacy Avenue, Scarborough, Ontario.

*President:* L. G. Rector.

*Fields of Interest:* Manufacture of ingredients for the food processing industry. Our customers are found in the meat packing, baking, canning, pickle making, frozen foods and convenience foods sectors of the food processing areas. Main product lines are cures, spices, oleoresins of spices, seasonings, cereals, breadings, batters, binders, dry soup and gravy makers.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Approximately 5,400 sq. ft. of laboratory and pilot plant space located at 757 Pharmacy Ave., Scarborough, Ont.

*Research Personnel:* J. S. Wenzel, Vice-President Technical; A. H. Klopp, Technical Director; Dr. J. A. Ziegler, Director of Research; J. E. Connell, Manager Development Laboratory; D. V. Dyson, Manager Breeding Laboratory; R. M. Friesen, Manager Meat Laboratory.

*Laboratory Staff:* Chemists 9, technicians 7.

*Recruiting Contact:* R. J. Page.

## GUIDELINE INSTRUMENTS LTD.

Box 99, Smiths Falls, Ontario.

*President:* J. Sutcliffe.

*Fields of Interest:* High precision electrical measurement.

*Major Activity of Company:* Mfg. 75%, R&D 10%, Testing and Evaluation 15%.



## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Development laboratories with electronics, microscopy, chemical and high vacuum equipment.

*Research Personnel:* I. Malcolm, R&D Eng.

*Laboratory Staff:* Professional engineers 2, technicians 2, others 3.

*Recruiting Contact:* I. Malcolm.

### GULF OIL CANADA LIMITED

Research and Development Department  
2489 North Sheridan Way, Sheridan Park, Ontario.

*President:* C. Hay.

*Fields of Interest:* Research and Development of petroleum, petrochemicals and chemical products and processes.

*Research Facilities:* Product Development Laboratories, Fuels and Lubricants Performance Evaluation Laboratories, Analytical Research Laboratories,, Pilot Plants. Our Research Department is composed of 62,000 square feet.

*Research Personnel:* R. M. Donald, Manager, Research and Development Department; D. E. Foringer, Director, Technical Operations; B. M. Hewat, Director, Services; K. Cashmore, Co-ordinator, Petroleum Product Development; R. E. Leveque, Co-ordinator, Analytical Research; B. C. St. George, Co-ordinator, Special Projects.

*Laboratory Staff:* Total of 116. Professionals 61 and technicians and technologists 55.

Ph.D. Chemists 14, M.Sc. Chemists 4, M.Sc. Physicist 1, M.Sc. Metallurgist 1, M.Sc. Chemical Engineers 2, B.Sc. Chemists 26, B.Sc. Chemical Engineers 11, B.Sc. Physicist 1.

*Recruiting Contact:* B. M. Hewat, Director, Services.

### HORTON STEEL WORKS, LIMITED

20 Jennet Street, Fort Erie, Ontario.

*President:* A. G. Asplin.

*Fields of Interest:* Welding, plate structures and metal membranes.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Welding and physical testing facilities. Also non-destructive testing facilities.

*Research Personnel:* Irvin R. Gottschlich, P.Eng., Welding Engineer.

*Laboratory Staff:* 10 people supporting staff.

*Recruiting Contact:* L. M. Guest.

## INDUSTRIAL RESEARCH FACILITIES

### HUSKY MANUFACTURING & TOOL WORKS LIMITED

530 Queen Street South, P.O. Box 1000, Bolton, Ontario.

*President:* Robert D. Schad.

*Fields of Interest:* Research and Development in equipment for the manufacturing of plastics, particularly in the injection molding field; automation of handling, molding, assembling, etc.

*Major Activity of Company:* Mfg. 95%, R&D 5%.

*Research Facilities:* 7,700 square feet of Research Laboratories, consisting of machine and mold testrooms, electrical laboratory, and design offices.

*Research Personnel:* H. Rees, Vice-President, Research and Development.

*Laboratory Staff:* Professional engineers 3, technicians 3.

*Recruiting Contact:* H. Rees.

### IBM COMPANY LIMITED

1150 Eglinton Avenue, East, Don Mills 402, Ontario.

*President:* J. E. Brent.

*Fields of Interest:* Data processing systems and supplies; office products and supplies; offset duplicating equipment; micro processing equipment; and cold-typesetting equipment.

*Major Activity of Company:* Mfg., R&D, Testing and Evaluation, Consulting and Marketing.

*Research Facilities:* Facilities located on the site of the Company Headquarters in Don Mills, Ontario.

*Research Personnel:* B. B. Goodfellow, Director IBM Canada Ltd. Laboratory.

*Recruiting Contact:* R. E. A. Mason, Manager-Planning, IBM Canada Ltd. Laboratory.

### IMPERIAL EASTMAN CORPORATION (CANADA) LTD.

75 Dymment Road, Barrie, Ontario.

*President:* Chas. McNellis.

## INDUSTRIAL RESEARCH FACILITIES

### IMPERIAL OIL ENTERPRISES LTD.

Research Department

P.O. Box 3022, Sarnia, Ontario.

*President:* W. O. Twaits.

*Fields of Interest:* Petroleum processes and products. Petrochemicals — raw materials, intermediates, plastics, additives.

*Research Facilities:* Approximately 120,000 sq. ft. of laboratory, pilot plant and engine test facilities with all necessary modern equipment and analytical tools. Also in Sarnia is the Plastics Application Laboratory in which part of the function is application research. An associated laboratory in Montreal does research on building products and there are producing and exploration labs in Calgary.

*Research Personnel:* Dr. G. W. Gurd, Manager; Dr. C. H. Caesar, Deputy Manager; R. B. Berkoff, Manager, Operations Division; Dr. C. T. Steele, Manager, Chemicals Division; J. L. Tiedje, Manager, Petroleum Division.

*Laboratory Staff:* C. B. Rupar, Research Advisor, Fuel Products; J. Eng, Senior Research Chemist, Fuel Processes; Dr. J. Walker, Senior Research Chemist, Lube Processes; W. C. Pattenden, Research Advisor, Lube Products; J. A. Lefebvre, Research Advisor, Asphalts; Dr. I. S. Pasternak, Senior Research Chemist, Industrial Chemicals; Dr. T. H. Sutherland, Senior Research Chemist, Plastics; A. J. Stephenson, Senior Research Chemist, Analytical.

Professionals 76, Supporting Staff 180.

*Recruiting Contact:* Dr. C. H. Caesar.

### INTERNATIONAL CELLULOSE RESEARCH LIMITED

Hawkesbury, Ontario.

*President:* Geoffrey D. Hughson.

*Fields of Interest:* R&D in fields of pulping, bleaching, papermaking, wood chemistry, by-products, etc., related to the manufacture of newsprint kraft paper and board, dissolving pulp, building products and other products of the parent company, Canadian International Paper Company.

*Major Activity of Company:* R&D 98%, Testing and Evaluation 2% for parent company, Canadian International Paper Company.

*Research Facilities:* Laboratories for applied and fundamental research, and pilot plants for pulping, bleaching and end product evaluation in Hawkesbury; pilot plants for pulping and papermaking in Gatineau, Quebec.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* F. R. Charles, Vice-President and Director of Research; W. B. Cranford, Manager, Process Development Division; Dr. D. B. Mutton, Director, Basic Research and Special Services.

*Laboratory Staff:* Chemists 31, chemical engineers 26, physicists 2, botanists 3, mechanical engineers 3, technicians 126, others 34; total 225.

*Recruiting Contact:* W. J. I. Kitchen, Administrative Assistant.

## INTERNATIONAL HARVESTER COMPANY OF CANADA LIMITED

208 Hillyard Street, Hamilton, Ontario.

*President:* C. C. Brannan.

*Fields of Interest:* Farm and Industrial equipment, motor trucks, construction equipment.

*Major Activity of Company:* Mfg. 97%, R&D 3%.

*Research Facilities:* Farm and Industrial Equipment Research and Development Centre, Hamilton, Ontario. Motor Truck Research and Development Centre, Chatham, Ontario.

*Research Personnel:* R. E. Penfold, Manager of Engineering; C. B. Harrop, Chief Engineer, Hamilton; C. E. Lindros, Chief Engineer, Chatham.

*Laboratory Staff:* Hamilton — professional engineers 18, certified technologists 7, draftsmen 30, others 25. Chatham — professional engineers 6, others 35.

*Recruiting Contact:* P. M. Lanz.

## JAMES HOWDEN & PARSONS OF CANADA, LIMITED

1510 Birchmount Road, Scarborough 733, Ontario.

*President:* W. MacOwan.

*Fields of Interest:* Air Flow through Centrifugal and Axial Fans and Blowers. Design studies. Testing, evaluation and development of prototype scale model units. Overspeed testing of commercial Blower wheels.

*Major Activity of Company:* R&D 45%, Testing and Evaluation 45%, Consulting 10%.

*Research Facilities:* Two A.M.C.A. test rigs, each fully equipped for 36½ inch dia. model wheel performance testing. One vacuum chamber for overspeed tests of Fan and Blower wheels up to 48 inch dia.

*Research Personnel:* W. H. Johnson, Manager; R. Miller; R. Williamson; D. Basu-Roy.

*Recruiting Contact:* W. H. Johnson, Manager.

## INDUSTRIAL RESEARCH FACILITIES

### GEORGE KELK LIMITED

48 Lesmill Road, Don Mills, Ontario.

*President:* G. F. Kelk.

*Fields of Interest:* Electronic, mechanical and optical devices and systems for industrial automation.

*Major Activity of Company:* Mfg. 50%, R&D 40%, Testing and Evaluation 5%, Consulting 5%.

*Research Facilities:* Approximately one-quarter of 17,000 sq. ft. engineering and manufacturing building. Electronic, mechanical and optical laboratory equipment.

*Research Personnel:* A. C. Sharp, B.Sc. (Chief Engineer), assisted by four designers and five senior technicians.

*Recruiting Contact:* A. C. Sharp.

### KYSOR OF RIDGETOWN LIMITED

95 Erie Street South, P.O. Box 1060, Ridgetown, Ontario.

*President:* H. E. Wick.

*Fields of Interest:* Metal stampings and assemblies, metal finishing, builders hardware.

*Major Activity of Company:* Mfg. 99%, R&D 1%.

*Research Facilities:* Limited to design, tool room sample shop and simple test facilities.

*Research Personnel:* M. D. Green, Vice-President, Engineering.

### JOHN LABATT LIMITED

150 Simcoe Street, London, Ontario.

*President:* N. E. Hardy.

*Fields of Interest:* Beer and ale, wines, flour, starch, gluten, packaged foods, food and feed supplements, fine chemicals.

*Major Activity of Company:* Mfg.

*Research Facilities:* Animal Science Laboratories, London, Ontario. Experimental Farm, Putnam, Ontario. Beverage Science Laboratories, London, Ontario. Food Technology Laboratories, Montreal, Quebec. Microbiological Science Laboratories, London, Ontario. Organic Chemistry Laboratories, Montreal, Quebec.



## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* Dr. I. R. Sibbald, Director of Animal Science; Dr. B. Shelton, Manager of Beverage Science; Dr. J. Holme, Director of Research (Food, Starch, Gluten); Dr. M. F. Walmsley, Director of Microbiological Science; Dr. C. Podesva, Director of Research (Organic Chemistry).

*Laboratory Staff:* Scientists 39, technicians 65.

*Recruiting Contact:* R. C. Deacon.

## LAKE ONTARIO STEEL COMPANY LIMITED

Hopkins Street South, Whitby, Ontario.

*President:* G. R. Heffernan.

## LECO INDUSTRIES LTD.

70 Barbados Blvd., Scarborough, Ontario.

*President:* W. E. Lynes.

*Fields of Interest:* Research and development of novel plastic films for the food and industrial packaging industry; new film process development and optimization.

*Major Activity of Company:* Mfg. 95%, R&D 5%.

*Research Facilities:* Laboratory for manufacture and evaluation of new plastic film products.

*Research Personnel:* Dr. W. E. Baker, Manager of R&D.

*Laboratory Staff:* Engineers 2, technicians 4.

*Recruiting Contact:* Dr. W. E. Baker.

## LEIGH INSTRUMENTS LIMITED

P.O. Box 820, Carleton Place, Ontario.

*President:* J. J. Shepherd.

*Fields of Interest:* Military and commercial aircraft location and recording systems including airfoil delivery, crash position indicator, accident and maintenance data recording systems and ground data processing systems; aircraft instruments including automatic master heading control, servo repeater amplifier, and servo pneumatic and barometric altimeters; commercial products including forestry survey radar altimeter, fluoride analyzer for pollution measurements, and oxygen probe for steel making are currently in production or under development.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 65%, R&D 20%, Testing and Evaluation 15%.

*Research Facilities:* Data recorder, PDP-8 computer, RF, instruments including precision barometer and aeronautical development facilities are available. Environmental laboratory contains six AGREE temperature chambers, each fitted with vibration machines, one large temperature altitude chamber, two high frequency vibration machines and a 100 fps impact facility.

*Research Personnel:* A. R. Buchanan, Director of Engineering; G. K. Dimock, Assistant to Director of Engineering; H. Aass, Aeronautical consultant; J. R. Williams, Chief Engineer Recorder Systems; G. A. Ireland, Chief Engineer Instrumentation; R. B. Ireland, Manager, Aeronautics Development; R. I. Mott, Manager, R.F. Development.

*Laboratory Staff:* Engineers 38, technicians 32, designers or draftsmen 37.

*Recruiting Contact:* A. R. Buchanan, Director of Engineering.

### LEVER BROTHERS LIMITED

1 Sunlight Park Road, Toronto 8, Ontario.

*President:* John C. Lockwood.

*Fields of Interest:* Manufacturing and marketing of consumer products — soaps, detergents, edible fats and oils, wax products and industrial cleaners and specialties.

*Major Activity of Company:* Manufacturing and Marketing of Consumer products.

*Research Facilities:* Laboratories staffed by 13 engineers and chemists and 12 technicians.

*Recruiting contact:* T. C. Kellough.

### LIBBY, McNEILL & LIBBY OF CANADA, LIMITED

330 Richmond Street, Chatham, Ontario.

*President:* C. John New.

*Fields of Interest:* Manufacturing, processing and marketing of food products.

*Major Activity of Company:* Mfg. 80%, R&D less than 1%, Testing and Evaluation less than 1%, other 20%.

## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Agricultural Research laboratory equipped for analytical work on soils and plants. A ten acre testing field for field plot experiments. Full line of equipment for experimental plot work. Product Improvement and new food product development laboratory.

*Research Personnel:* Ronald J. Hall, Agr. Research Manager; Bruce M. Marshall, Horticulturist.

*Laboratory Staff:* H. R. Klinck, Product Improve and Quality Audit Mgr.; G. C. Bristow, Quality Control Manager; M. A. Watts, Quality Control Supervisor, Chatham; L. J. Luter, Quality Control Supervisor, Wallaceburg.

*Recruiting Contact:* E. Russell Oke, Director of Administration.

### THOMAS J. LIPTON LIMITED

307 Orenda Road, Bramalea, Ontario.

*President:* R. K. Porter.

*Fields of Interest:* Food processing, especially dehydrated consumer products, frozen desserts, canned meats.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Total staff of 7, approx. 2,500 sq. ft.

*Research Personnel:* Dr. R. L. Maurer; M. R. Tremblay; Henry Davis.

*Laboratory Staff:* Mrs. C. Spraggett; Miss Ann Nicholson.

*Recruiting Contact:* M. Douglas.

### LITTON SYSTEMS (CANADA) LIMITED (LITTON INDUSTRIES)

25 Cityview Drive, Rexdale, Ontario.

*President:* J. D. Freitag.

*Fields of Interest:* Airborne navigation systems, tactical data systems, bombing computer systems, areospace ground equipment, commercial special purpose control systems.

*Major Activity of Company:* Mfg. 75%, R&D 10%, Testing and Evaluation 5%, other 10%.

*Research Facilities:* 10,000 square feet.

*Research Personnel:* L. A. Borth, Vice-President, Engineering.

*Laboratory Staff:* Engineers 30, technicians 50.

*Recruiting Contact:* D. L. Mogg, Employment and Compensation Manager.

## INDUSTRIAL RESEARCH FACILITIES

### M & T PRODUCTS OF CANADA LIMITED

670 Strathearne Avenue, North, Box 211, Station "C", Hamilton, Ontario.

*President:* C. J. Beasley.

*Fields of Interest:* Tin chemistry.

*Major Activity of Company:* Mfg. 95%, R&D 5%.

*Research Facilities:* Completely equipped laboratory.

*Research Personnel:* R. D. Fraser, Vice-President and General Manager; P. D. Goulden, Research Director.

*Laboratory Staff:* Chemical engineer 1, chemist 1, technicians 3.

*Recruiting Contact:* P. D. Goulden.

### MALLORY BATTERY COMPANY OF CANADA LIMITED

2333 North Sheridan Way, Sheridan Park, Ontario.

*President:* K. R. Brands.

*Fields of Interest:* Primary and secondary alkaline dry cells, high energy density power sources, research and development of power sources for special operating conditions.

*Major Activity of Company:* Mfg. 95%, R&D 5%.

*Research Facilities:* Power sources laboratory with facilities for research on electrochemical, powder technology, and metallurgical aspects of electrochemical power generation.

*Research Personnel:* Dr. F. J. Kelly, Manager, Research; Dr. F. Przybyla, Research Scientist.

*Laboratory Staff:* Scientists 4, technologists 2, technicians 4.

*Recruiting Contact:* Dr. F. J. Kelly.

### MAPLE LEAF MILLS LIMITED

417 Queen's Quay West, Toronto 2B, Ontario.

*President:* G. M. MacLachlan.

*Fields of Interest:* Animal feeds, grain, flour, baking grocery products, vegetable oils, resins.

*Research Facilities:* Research laboratory and research farm.

*Research Personnel:* W. H. Hoffman, Director of Research; W. D. Morrison, Director, Nutrition and Research.

*Laboratory Staff:* Professionals 8, technicians 16.

*Recruiting Contact:* N. P. Vallieres, Director of Industrial Relations.

## INDUSTRIAL RESEARCH FACILITIES

### MARSLAND ENGINEERING LIMITED

350 Weber Street North, Waterloo, Ontario.

*President:* L. H. Marsland.

*Fields of Interest:* Electro-mechanical-optical displays and recorders, meteorological instrumentation (airport visibility systems), audio equipment and components (amplifiers, speakers, transformers), ordnance hardware, data communication equipment.

*Major Activity of Company:* Mfg. 90%, R&D 10%.

*Research Facilities:* Engineering design and drafting office, electronics and environmental laboratories, mechanical model shop, photographic laboratory (in excess of 15,000 square feet), IBM System 360/20 computer (to be upgraded in 1970 to Submodel 5 with PL/1 Compiler).

*Research Personnel:* A. S. Armstrong, Chief Engineer; F. D. Leeson, Supv. Electronics Engineering; F. Moritz, Supv. Mechanical Engineering; H. Steeves, Supv. Electronic Data Processing.

*Laboratory Staff:* Systems engineers 3, electronics engineers 3, mechanical engineers 2, electronics technicians 5, mechanical technicians 4, draftsmen 12, technical writing 6.

*Recruiting Contact:* W. Marsland, Personnel Manager.

### L. J. McGUINNESS AND CO., LIMITED

2 Algoma Street, Toronto 14, Ontario.

*President:* L. J. McGuinness.

*Fields of Interest:* Distillation and manufacture of Whisky, Gin, Vodka, Rum and Liqueurs.

*Major Activity of Company:* Mfg. 90%; R&D, Testing and Evaluation, 10%.

*Research Facilities:* Research and Development Laboratory, Quality Control Laboratory, Routine Tests Laboratory.

*Research Personnel:* E. A. Mascoll, Manager of Research and Product Development; E. C. Chiarello, Distillery Chemist.

*Laboratory Staff:* E. A. Mascoll; E. C. Chiarello; C. Lee; E. Pacia; G. Zielinski.

*Recruiting Contact:* E. A. Mascoll, Manager of Research and Product Development.

## INDUSTRIAL RESEARCH FACILITIES

### MEASUREMENT ENGINEERING LTD.

6 John Street South, Arnprior, Ontario.

*Vice President:* J. B. Turner.

*Fields of Interest:* Investigation relative to the development of equipment and technology into fields of electrical safety. Primarily for patient care but with fringe areas of human life protection from shock and fire.

*Major Activity of Company:* Mfg. 75%, R&D 10%, Consulting 15%.

*Research Facilities:* Laboratory and design shop to produce prototype and adequate facilities to conduct tests. Small but well-shelved library.

*Research Personnel:* J. B. Turner; V. Beresnikow.

*Laboratory Staff:* R. Mann; H. Rice; H. French.

*Recruiting Contact:* J. B. Turner.

### MILLTRONICS LIMITED

730 The Kingsway, Peterborough, Ontario.

*President:* B. H. Rieger.

*Fields of Interest:* Automatic process control, devices and sensors, systems engineering industrial minerals and non metallic ores.

*Major Activity of Company:* Mfg. 40%, R&D 7%, Testing and Evaluation 3%, Other-Systems Engineering 50%.

*Research Facilities:* Research facilities for investigation in the fields of electrical/electronic, particle size, cyclone behaviour.

*Research Personnel:* S. A. Sage, Director Research; B. F. Osborne, Senior Research Engineer; R. B. Hall, Research Engineer.

*Laboratory Staff:* Engineers 4, technicians 3.

*Recruiting Contact:* S. A. Sage.

### MOFFATS LIMITED

Gibson and Wright Avenues, Weston 492, Ontario.

*President:* J. C. Cooper.

*Fields of Interest:* Manufacture of major household appliances.

*Major Activity of Company:* Mfg. 98.5%, R&D 1%, Testing and Evaluation 0.5%.

*Research Facilities:* Model shop and laboratory equipped with basic electrical and thermal test gear, variable a.c. power supplies. Natural gas supply and metering equipment. Test kitchen equipped with all major appliances.

*Research Personnel:* G. A. Richards, P.Eng., Director of Research; H. L. Hagenbuch, Product Engineer; E. W. Toms, Product Engineer, Gas; L. J. Wojcik, Product Engineer; (Miss) G. Hanks, Home Economist.

*Laboratory Staff:* Laboratory technicians 4.

*Recruiting Contact:* H. Lewis.



## INDUSTRIAL RESEARCH FACILITIES

### MOLONEY ELECTRIC COMPANY OF CANADA LIMITED

213 Sterling Road, Toronto 3, Ontario.

*President:* G. E. Dunfield.

*Fields of Interest:* Electrical Engineering, Mechanical Engineering.

*Major Activity of Company:* Mfg. 98%, R&D 1%, Testing and Evaluation 1%.

*Research Facilities:* Occupy an area of 765 sq. ft. and include precision tool-room lathe, 11", small shaper, surface grinder, pedestal drill press, surface plate and precision measuring equipment, oscillograph, pulse generator, meters, drafting board and machines, desks and filing cabinets. Production machine shop and other plant facilities available to R&D personnel when and if required.

*Research Personnel:* A. S. Cooper, R&D Technician; H. Dietrichs, Machine (design draftsman); W. Kobler, Machinist.

### MOLSON BREWERIES OF CANADA LIMITED

1555 Notre Dame Street East, Montréal 133, Québec, Canada.

*President:* J. T. Black.

*Fields of Interest:* Production of beer, new methods, materials, by-product utilization.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* The Research Laboratories, located at our main plant in Montreal, cover an area of ca. 6,000 square feet and comprise a development laboratory, a gas - chromatography and flavour research laboratory, a biochemistry laboratory as well as a pilot plant and a library. Major equipment available comprises in addition to the pilot brewery, two gas chromatographs, a fraction collector, and infrared spectro-photometer, an auto-analyzer for sugars and/or amino acids, and a freeze-drier, various columns and other equipment associated with all of these.

*Research Personnel:* Eric H. Molson; Zoltan Valyi; George E. A. Van Gheluwe; Dr. M. Dadic; A. Buday; A. M. Jamieson; E. C-H Chen; G. Belleau; Miss M. Lestage.

*Laboratory Staff:* J. McKee J. G. Lavallée; Miss D. Lafontaine.

*Recruiting Contact:* D. H. Stanley, Manager, Staff Personnel Service.



## INDUSTRIAL RESEARCH FACILITIES

### MONSANTO CANADA LIMITED

425 St. Patrick Street, LaSalle, Quebec.

*President:* A. G. Erdman.

*Fields of Interest:* Polymers, organic, inorganic and agricultural chemicals, textile fibres, foams, calendered vinyl products, coatings.

*Major Activity of Company:* Mfg. and Mktg. 100%.

*Research Facilities:* Ontario — Woodbridge. Process technology and product development laboratory — urethane foams. Oakville — Process technology and product development laboratory — calendered vinyl products and vinyl compounds.

*Research Personnel:* Woodbridge — R. E. Jones, Manager, Process Technology and Engineering. Oakville — M. Medgessy, Manager, Process Technology and Engineering.

*Laboratory Staff:* Woodbridge — Professionals 8, technicians 7. Oakville — Professionals 8, technicians 14.

*Recruiting Contact:* W. K. Frymoyer, Monsanto Canada Limited, 425 St. Patrick Street, LaSalle, Quebec.

### NORTHERN ELECTRIC COMPANY LIMITED

Central Laboratories.

P.O. Box 3511, Station "C", Ottawa, Ontario.

*President:* V. O. Marquez.

*Fields of Interest:* Development of satellites and ground stations, electronic and crossbar switching systems, wire and cable development, transmission equipment, microwave radio systems, microcircuitry, ferrite research, solid state physics, development of telephone sets, and other telecommunications equipment.

*Major Activity of Company:* Mfg. 85%, R&D 10%, Testing and Evaluation 5%.

*Research Facilities:* Central laboratories in Ottawa and six regional laboratories in other Canadian centres.

*Research Personnel:* Dr. D. A. Chisholm, Vice-President; J. C. R. Punchard, Assistant Vice-President; Dr. F. S. Eadie, Director of Research; R. W. Quirk, Director of Administration; W. C. Bengier, Director of Transmission Development; W. J. Inkster, Director of Systems Engineering; E. H. Hayes, Director of Quality Assurance; H. L. Webster, Director of Switching Development; W. J. Pardy, Director of Apparatus Development; W. R. Tims, Director of Wire and Cable Development.

## INDUSTRIAL RESEARCH FACILITIES

*Laboratory Staff:* Engineers 700, technologists 600.

*Recruiting Contact:* V. H. Earle, Personnel Manager.

*Information Contact:* R. H. Tanner, Manager Scientific Information.

### NORTHERN RADIO MANUFACTURING COMPANY LIMITED 1950 Bank Street, Ottawa 10, Ontario.

*President:* J. G. Macmillan.

*Fields of Interest:* Data transmission and related fields.

*Major Activity of Company:* Mfg. 80%, R&D 20%.

*Research Facilities:* 1,000 square feet well-equipped lab for our fields of endeavour.

*Research Personnel:* A. W. Y. Desbrisay, Chief Engineer; H. Moecke; B. Moyles; P. W. White.

*Laboratory Staff:* Engineers 3, technicians 3, draughtsman 1, secretary 1.

*Recruiting Contact:* J. G. Macmillan, President.

### NORTON RESEARCH CORPORATION (CANADA) LIMITED P.O. Box 690, Chippawa, Ontario.

*President:* John Jeppson.

*Fields of Interest:* Development of new businesses through technical innovations, particularly in the fields of abrasives, refractories, electronics and high temperature technology (1500-2800°C).

*Major Activity of Company:* R&D 75%, Testing and Evaluation 20%, Consulting 5%.

*Research Facilities:* Modern laboratories for R&D on electronic materials and devices, abrasives and refractories, including analytical, X-Ray and microscopic labs. Pilot plant facilities for projects involving arc furnaces, high frequency furnace, chemical and/or ceramic engineering processes.

*Research Personnel:* Dr. A. F. McKay, Vice-President and Managing Director; Dr. G. L. Martin, Vice-President.

*Laboratory Staff:* Engineers — chemical 8, metallurgical 2, electrical 2, mechanical 1. Scientists — chemical 3, physicist 1, mineralogist 2, geologist 1, technicians 30, other 10.

*Recruiting Contact:* Dr. A. F. McKay, Vice - President and Managing Director.

## INDUSTRIAL RESEARCH FACILITIES

### OGILVIE FLOUR MILLS CO., LTD.

Sun Life Building, P.O. Box 6089, Montreal, Quebec.

*President:* J. W. Tait.

*Fields of Interest:* Manufacture of food products and industrial chemicals. A diversified line of products for both consumer and industrial uses.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Well-equipped laboratories and pilot plant located at Montreal, Quebec.

*Research Personnel:* J. C. Langford, Vice-President, Technical; Dr. J. Holme, Director of Research and Development.

*Laboratory Staff:* Research chemists or food technologists 13, chemical engineers 2, home economists 2, microbiologist 1, research laboratory technicians 13, administrative 5.

*Recruiting Contact:* Personnel Department or W. L. Gagen, Head, Administrative and Technical Services.

### ONTARIO-MINNESOTA PULP AND PAPER COMPANY LIMITED

Fort Frances, Ontario.

*President:* Juan del Valle.

*Fields of Interest:* Pulp and paper manufacture, pulpwood usage.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* 20,000 sq. ft. lab at Int'l Falls, Minn. Pilot equipment for pulping, bleaching, paper coating and sizing, printing. Analytical lab equipment. Specialized paper testing facilities. Infra-red analysis, paper splitting equipment, microscopic and photomicrographic equipment. Research Library.

*Research Personnel:* W. H. McPherson, Ph.D., Director; W. A. Kraske, MS Chem. E., Supervisor; R. E. Summer, Ph.D. Chem., Research Associate; J. K. Crossman, Ph.D. Chem. E., Sr. Res. Chemist; C. M. Thureen, MS Chem., Group Leader; J. J. Rahm, Ph.D. Chem., Sr. Res. Chemist; R. Zemanek, MS Chem. E., Stipendist; E. H. Madison, BS Chem. E., Group Leader; D. R. Ericson, BS Chem. E. Research Chemist; R. P. Weber, BA Chem., Research Chemist.

*Laboratory Staff:* See above, plus ten laboratory technicians.

*Recruiting Contact:* W. H. McPherson.

## INDUSTRIAL RESEARCH FACILITIES

### ONTARIO RESEARCH FOUNDATION

Sheridan Park, Ontario.

*President:* W. R. Stadelman.

*Fields of Interest:* Ore dressing, process and physical metallurgy, ultrasonics. Engineering, machine and instrument design and development. Physical Chemistry, air pollution, corrosion, polymers, chemical processes. Materials Chemistry, ceramics, construction and building materials. Organic Chemistry, pulp and paper, pesticides, surfactants. Applied Physics, electronics, ion implantation, thin film. Textiles. Applied Microbiology, sewage.

*Major Activity of Company:* Contract research and development for industrial mining and commercial companies, industrial associations and groups, governmental departments, governmental agencies, etc., involving (a) improvement and development of industrial process, (b) evaluation improvement and development of products, (c) technical-economic studies and analysis, (d) technical studies of social or economic problems.

*Research Facilities:* Modern, well-equipped, 180,000 square feet laboratory, located in the Sheridan Park Research Community.

*Director of Research:* Dr. W. M. Campbell.

*Laboratory Staff:* Professional scientists and engineers 100, technical supporting personnel 125.

*Inquiries regarding facilities and services write:* Director, Department of Project Development.

*Recruiting Contact:* Personnel Officer.

### ORTHO PHARMACEUTICAL (CANADA) LTD.

19 Green Belt Drive, Don Mills, Ontario.

*Vice-President and General Manager:* R. L. Mackenzie.

*Fields of Interest:* Contraceptive reproduction studies, pre-clinical toxicology, pharmacological screening, endocrinological screening (Bio Assay), clinical studies on oral contraceptives, clinical studies on gynecological disorders.

*Research Facilities:* Experimental biological research (Toxicology, Pharmacology, Endocrinology) fully equipped facilities for experimental Pharmaceutical Research.

*Research Personnel:* John Lubansky, Director of Toxicology and Research Laboratories; F. A. Philbrook, M.D., Director of Clinical Research.

*Laboratory Staff:* Professional 11, technical 10, other 3.

*Recruiting Contact:* Lloyd Field, Director of Personnel.

## INDUSTRIAL RESEARCH FACILITIES

### OSBORNE ELECTRIC CO. LTD.

95 Wesley Street, Toronto 18, Ontario.

*President:* G. Y. R. Allen.

*Fields of Interest:* Inductive co-ordination, electrical interference and protection of wire line communications facilities from the effects due to their proximity to high voltage electric power systems.

*Major Activity of Company:* Mfg. 80%, R&D and Testing and Evaluation 10%, Consulting 10%.

*Research Facilities:* Low and high frequency generators and transmission test equipment. High voltage impulse testing including surge testing. Physical testing equipment — weatherability facilities, e.g U.V., impedance, dielectric loss test equipment.

*Research Personnel and Laboratory Staff:* as required.

*Recruiting Contact:* M. Longley.

### PARKIN ARCHITECTS, ENGINEERS, PLANNERS

1500 Don Mills Road, Don Mills, Ontario.

*Managing Partner:* John C. Parkin.

*Fields of Interest:* Architecture, engineering related to building construction, urban planning.

*Major Activity of Company:* R&D 2%, Consulting 98%.

*Research Facilities:* Facilities part of company headquarters in Don Mills, Ontario, and in Winnipeg, Manitoba.

*Research Personnel:* H. E. H. Roy, B.Sc., Ph.D., P.Eng.; D. C. Rowland, B.Sc., B.Arch., M.Arch.; J. A. Bogdan, B.Arch., M.Arch., U.D.; W. D. Hurst, B.Arch., M.Arch.; G. F. Anderson, B.Sc., M.Sc.

*Laboratory Staff:* Professional personnel (approx.) called on as required.

*Recruiting Contact:* H. E. H. Roy.

### PIONEER ELECTRIC

101 Rockman Street, Winnipeg 19, Manitoba.

*President:* R. Noonan.

*Fields of Interest:* Manufacturing electrical transformers, regulators and metal clad switchgear.

*Major Activity of Company:* Mfg. 99%, R&D 1%.



## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* EHV Research Laboratory comprises a building having a floor space of 55 ft. x 88 ft. and a height of 67 ft.

*Research Personnel:* E. A. Dillon, Director Research and Development; C. G. James, Project Engineer; M. R. Raghuveer, Project Engineer; T. Mukutmoni, Project Engineer.

*Laboratory Staff:* Technicians 5.

*Recruiting Contact:* D. Scott, Personnel Manager.

## POLYMER CORPORATION LIMITED

Sarnia, Ontario.

*President:* E. R. Rowzee.

*Fields of Interest:* Manufacture of synthetic rubbers, latices, resins and associated raw materials.

*Major Activity of Company:* Mfg. 96%, R&D 4%.

*Research Facilities:* Fully equipped laboratories and pilot plants for synthesis, evaluation, process and application development of company products.

*Research Personnel:* E. J. Buckler, Vice-President; L. A. McLeod, Manager, R&D Division; W. G. Forbes, Manager, Market Development Laboratories; J. F. Henderson, Manager, Current Products Research; J. Beaton, Manager, New Products Research.

*Recruiting Contact:* H. A. Graham, Manager, Organization and Management.

## THE PROCTER & GAMBLE COMPANY OF CANADA, LIMITED

Burlington Street East, Hamilton, Ontario.

*President:* G. Williams (P.&G. Bldg., 2 St. Clair Ave. W., Toronto).

*Fields of Interest:* Soaps and detergents, edible oils and shortenings, toilet goods.

*Research Facilities:* Have laboratory and pilot plant facilities as well as administrative facilities for a staff of approximately 100 people.

*Recruiting Contact:* A. F. Howey, P.&G., Hamilton.



## INDUSTRIAL RESEARCH FACILITIES

### RCA LIMITED

1001 Lenoir Street, Montreal, P.Q.

*President:* J. D. Houlding.

*Fields of Interest:* Communications equipment—microwave systems, broadcast transmitters, spacecraft electronics systems, earth stations for space communications.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Completely equipped Electronics and Physics Laboratories.

*Research Personnel:* Dr. M. P. Bachynski, Director of Research; Dr. F. G. R. Warren, Associate Director of Research; Dr. F. J. F. Osborne, Director, Plasma and Space Phys. Lab.; Dr. R. J. McIntyre, Director, Semi-conductor Electronics Lab.; Dr. R. M. Green, Director, Research Programme Development and Director, Optical and Microwave Phys. Lab.; W. A. Chisholm, Manager, Research Administration.

*Laboratory Staff:* Senior Members of scientific staff 5, members of scientific staff 22, junior members of scientific staff 7, supporting technical personnel 17, professional staff 40 (of which 18 have Ph.Ds.).

*Recruiting Contact:* P. Gostony, Personnel Manager.

### REICHOLD CHEMICALS (CANADA) LTD.

1919 Wilson Avenue, Weston, Ontario.

*President:* G. L. Hagen.

*Fields of Interest:* Synthetic resins for plastics, moulding adhesives, surface coatings and chemicals, such as formaldehyde.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Polymer research laboratories in Vancouver, B.C., and Toronto, Ontario.

*Research Personnel:* Dr. S. Kambanis; Dr. H. Kucharska; Dr. C. Rickard; Dr. R. C. Vasishth.

*Recruiting Contact:* Dr. R. C. Vasishth, Research Director.

### P. L. ROBERTSON MANUFACTURING COMPANY LIMITED

15 Brydon Drive, Rexdale, Ontario.

*President:* S. H. Bonser.

## INDUSTRIAL RESEARCH FACILITIES

*Fields of Interest:* Manufacturing of industrial fasteners, processing of steel coiled wire, drawn steel processing and manufacturing of cold heading tools.

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 5%.

*Research Facilities:* 4,000 square feet devoted to Research and Development with complete testing laboratories.

*Research Personnel:* Geoffrey Dreger, Vice-President Manufacturing.

*Recruiting Contact:* Geoffrey Dreger, Vice-President Manufacturing.

### E. S. & A. ROBINSON (CANADA) LIMITED

69 Laird Drive, Toronto 352, Ontario.

*President:* J. F. Robinson.

*Executive Vice-President:* V. D. Strickland.

*Fields of Interest:* Flexible and other packaging materials, calendars and allied specialty products.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Laboratories and pilot plant for development of new packaging materials and investigation of packaging of food and other products.

*Research Personnel:* W. G. Reid, Vice - President; Dr. J. L. Cameron, Research and Development Manager; G. Soos, Chief Chemist.

*Laboratory Staff:* Professionals 7, technicians 16.

*Recruiting Contact:* K. R. Bertram.

### ROYALMETAL CORP. LTD.

Galt, Ontario.

*President:* R. P. McLean.

*Fields of Interest:* Furniture.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* R&D Depts. in all three factories — Galt, Smiths Falls, and St. Jean, Quebec.

*Research Personnel:* J. N. Douglas; G. Bechtel, W. Leckie.

*Laboratory Staff:* Approximately 15.

*Recruiting Contact:* J. N. Douglas.

## INDUSTRIAL RESEARCH FACILITIES

### S & L SEASONINGS LTD.

99 Advance Road, Toronto 570, Ontario.

*President:* T. R. Miles.

*Fields of Interest:* Basic research into the chemical composition of spices, herbs and other essential oil-bearing plants. Other areas of interest are terpenoid chemistry, flavour chemistry, chromatographic methodology, distillation methodology, chemotaxonomy and the feasibility of establishing essential oil crop cultivation and distillation.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* 1,750 sq. ft. research laboratory complete with gas chromatographic, infra-red spectroscopic and distillation equipment.

*Research Personnel:* Brian M. Lawrence, Director; James W. Hogg, Senior Chemist; Stuart S. Terhune.

*Laboratory Staff:* Richard E. Constable; Ena M. Scott.

*Recruiting Contact:* Brian M. Lawrence.

### ST. LAWRENCE CEMENT COMPANY

P.O. Box 520, Clarkson, Ontario, Canada.

*President:* P. Chapdelaine.

*Fields of Interest:* Manufacture of Portland Cements, development of new hydraulic binders, ready mix plants, quarries.

*Major Activity of Company:* Ontario only—Mfg. 99%, R&D 0.3%, Testing and Evaluation 0.7%.

*Research Facilities:* Standard equipment for cement and concrete testing. 2 X-ray fluorescence spectrometers and computer, 1 particle size analyser "Holderband System" to separate material in 2 microns range fractions from 0 to 60 microns. 2 compression testing machines 300,000 lbs. and 560,000 lbs. capacity, etc.

*Research Personnel:* (Full-time) J. Laneuville, Director Research and Development; L. P. MacDonald.

*Laboratory Staff:* (Part-time) Chemists 3, cement and concrete technicians 6.

*Recruiting Contact:* J. Laneuville.

### ST. LAWRENCE STARCH COMPANY LIMITED

141 Lakeshore Road East, Port Credit, Ontario.

## INDUSTRIAL RESEARCH FACILITIES

### SHELL CANADA LIMITED

505 University Avenue, Toronto, Ontario.

*President:* H. Bridges.

*Fields of Interest:* Exploration, production and manufacture of petroleum and chemical products.

*Research Facilities:* Complete laboratories including environmental facilities and prototype manufacturing facilities.

*Research Personnel:* Dr. G. Shane, Director Research; H. L. Buxton, Manager; D. F. Rhodes, Manager.

*Recruiting Contact:* Dr. G. Shane, Director Research.

### SHORE TO SHORE CORPORATION

100 Ottawa Street North, Kitchener, Ontario.

*President:* J. H. Hare.

*Fields of Interest:* Beef cattle breeding and production.

*Major Activity of Company:* R&D 10%, Testing and Evaluation 10%.

*Research Facilities:* Shantz Farms, New Hamburg, Ontario. 150 cross-bred cows. Corral and artificial insemination breeding chute. Performance test feedlot. 520 acres range.

*Research Personnel:* R. W. C. Stevens, Ph.D.; Ross Shantz.

*Laboratory Staff:* Martin Vos.

*Recruiting Contact:* Ross Shantz.

### SILVERWOOD DAIRIES, LIMITED

75 Bathurst Street, London 15, Ontario.

*President:* N. E. Kaye.

*Fields of Interest:* Improvement of specific performance characteristics of various dairy products and ingredients, notably milk fat and acid cheese whey.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Research and Development Laboratory and pilot plant located in the 7,500 sq. ft. former processing plant at 75 Bathurst Street, London, Ontario. At present approximately three-quarters of the top floor (1,600 sq. ft.) has been remodelled since April 15, 1968.

*Research Personnel:* H. T. Spettigue, Vice - President, Plant Facilities and Technology; A. G. Sargent, Supervisor, Research and Development; N. K. Mohan, Assistant to Supervisor, Research and Development; Prof. C. L. Diutschaever, Dept. of Food Science, University of Guelph, Projects Advisor.

*Laboratory Staff:* Laboratory technician to be added October, 1969.

*Recruiting Contact:* A. G. Sargent, Supervisor, Research and Development.

## INDUSTRIAL RESEARCH FACILITIES

### SINCLAIR RADIO LABORATORIES, LIMITED

122 Rayette Road, Maple, Ontario.

*President:* Professor G. Sinclair.

*Fields of Interest:* Antennas, filters, control systems, and associated hardware.

*Major Activity of Company:* Mfg. 75%, R&D 20%, Testing and Evaluation 3%, Consulting 2%.

*Research Facilities:* Antenna development and testing range aid laboratory, filter laboratory, intermodulation test bed.

*Research Personnel:* Dr. W. V. Tilston, Director of Research; I. A. Fraser, Engineering Manager; A. H. Secord, Senior Engineer; F. G. Buckles, Senior Engineer; G. Graham; J. Lainevoor; W. McGladdery; George Oksiutik, Engineer.

*Laboratory Staff:* Technologists 6.

*Recruiting Contact:* I. A. Fraser, Engineering Manager.

### SPARTON OF CANADA LIMITED

P.O. Box 2125, 100 Elm Street, London, Ontario.

*President:* N. C. Eiloart.

*Fields of Interest:* A. S. W. systems, particularly design and production of sonobuoy transmitters, receivers and hydrophones.

*Major Activity of Company:* Mfg. 90%, R&D and Testing and Evaluation 10%.

*Research Facilities:* Comprehensive electronic equipment to satisfy requirements in 4 above. Deep water and high pressure water environments.

*Research Personnel:* B. Graham; J. P. Chevalier; J. W. Maradyn.

*Recruiting Contact:* B. Graham.

### SPAR AEROSPACE PRODUCTS LTD.

Box 6022, Toronto International Airport, Ontario.

*President:* Mr. L. D. Clarke.

*Fields of Interest (brief description):* Research, design and development of antennas and booms for spacecraft, solid state power conditioning devices, electro-optical systems, and infra-red acquisition systems.

*Major Activity of Company:* Manufacturing 50%, Research and Development 20%, Testing and Evaluation 5%, other 25%.



## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Mechanical, Electronic, Physics (Electro-Optical) infrared and metallurgical laboratories.

*Research Personnel:* H. S. Kerr, Chief Engineer; H. R. Warren, Research (Space Systems); J. D. Graham, Research (Space Antennas and Booms); T. H. Ussher, Research (Power Conditioning).

*Laboratory Staff:* Mechanical 7; Metallurgical 2; Power Conditioning 2; Electro-Optical 5.

*Recruiting Contact:* Mr. E. V. Nield, Director of Personnel and Employee Relations.

## SPRAGUE ELECTRIC OF CANADA LIMITED

10 Bertal Road, Toronto 15, Ontario.

## STONE & WEBSTER CANADA LIMITED

60 Adelaide Street East, Toronto 1, Ontario.

*President:* R. S. Boyd.

*Fields of Interest:* Engineering, design, construction and/or project management of laboratories and other installations.

*Major Activity of Company:* Feasibility studies and reports, appraisals, consulting engineering, design and construction.

*Recruiting Contact:* C. T. Ogryzlo.

## STRITE INDUSTRIES LIMITED

298 Oak Street, Hespeler, Ontario.

*President:* J. D. Strite.

*Fields of Interest:* Ultra precision machining. Metallic seals — tube closure plugs.

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 3%, Consulting 1%, other 1%.

*Research Facilities:* Precision manufacturing machinery, precision measuring equipment, freezer and ovens for metal stabilization.

*Research Personnel:* J. D. Strite; L. Bialkowski; W. From; D. Mead.

*Laboratory Staff:* F. DiCarlo; R. Barnard.

*Recruiting Contact:* F. H. Cressman.



## INDUSTRIAL RESEARCH FACILITIES

### TMC (CANADA) LIMITED

R.R. 5, Ottawa, Ontario.

*President:* D. V. Carroll, M.E.I.C.

*Fields of Interest:* Research and development of radio transmitting and receiving and auxiliary equipment in the ELF through VHF spectrum. Specializing in single sideband and antenna multicoupler fields. Also in specialized communications. Research in underwater communications and magnetic compass devices.

*Major Activity of Company:* Mfg. 60%, R&D 20%, Testing and Evaluation 10%, Consulting 10%.

*Research Facilities:* 8,000 sq. ft. in modern plant on 8 acres of property. Screened room environmental chambers and complete instrumentation for communications R&D. Modern metal shop.

*Research Personnel:* K. Holt, Tech. Director; C. Tyson, B.Sc., Man. Engineering; K. Honjo, B.Sc.; S. Majmudar, B.Sc.; R. Attia, B.Mech. Eng.; P. Simpson, Design Engineer.

*Laboratory Staff:* Engineers 6, technologists and technicians 10, draughting 4, librarian.

*Recruiting Contact:* D. V. Carroll.

### TEXACO CANADA LIMITED

1425 Mountain Street, Montreal 107, Quebec.

*President:* A. G. Farquharson.

*Fields of Interest:* Integrated oil company, petrochemicals.

*Research Facilities:* Ontario only. Comprehensive lubricant development and testing laboratory.

*Research Personnel:* F. v. M. Bevan, Chief Chemist.

*Laboratory Staff:* Chemists 2, technicians 2.

### THOMSON RESEARCH ASSOCIATES LIMITED

53 Shaw Street, Toronto 3, Ontario.

*President:* John R. Woods.

*Fields of Interest:* Textiles, particularly wool and cotton research as well as finishing of all fibres. Germicides, as applied to textiles, leather, plastics, paint. Testing, road building materials (asphalt, concrete). Textiles, all phases.

## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 15%, R&D 50%, Testing and Evaluation 25%, Consulting 10%.

*Research Facilities:* 53 Shaw Street, Toronto, Ontario. 70 Crawford Street, Toronto, Ontario.

*Research Personnel:* N. H. Cruickshank, M.Sc., Vice-President and General Manager; P. J. Radford, B.Sc., Chief Chemist; F. Mains, B.Sc., B.A.Sc., Research Scientist; Robert MacDonald, Research Assistant.

*Laboratory Staff:* Technicians 4.

*Recruiting Contact:* N. H. Cruickshank.

### 3M-CANADA

Box 5757, London 12, Ontario.

*President:* Roy W. Keeley.

*Fields of Interest:* Any new product not related to present products.

*Major Activity of Company:* Mfg. 99%, R&D 1%.

*Research Facilities:* New product development laboratory of 1,000 sq. ft. equipped for bench scale prototype preparation

*Research Personnel:* W. E. Sohl, Manager, New Product Development; John Bryant, Senior Chemical Engineer; David Blackwell, Chemist.

*Laboratory Staff:* Typist-technician.

*Recruiting Contact:* Neil Harrington.

### TRUCK ENGINEERING LIMITED

165 Wellington Street, South, Woodstock, Ontario.

*President:* V. B. King.

*Fields of Interest:* Trailer and utility equipment mfg.

*Major Activity of Company:* Mfg. 90%, R&D 10%.

*Research Facilities:* Nil — Performed by outside organizations.

*Research Personnel:* R. Nixon, P.Eng. (Mechanical); J. Allcock, Design Draftsman; R. McLeod, Technologist (Mechanical).

*Laboratory Staff:* Nil.

*Recruiting Contact:* R. Nixon, P.Eng.

## INDUSTRIAL RESEARCH FACILITIES

### UNION CARBIDE CANADA LIMITED

123 Eglinton Avenue East, Toronto 12, Ontario.

*President:* J. S. Dewar.

*Fields of Interest:* Manufacture of chemicals and resins.

*Major Activity of Company:* Mfg. 100%.

*Research Personnel:* G. L. Bata, Director of Technology; J. W. Donaghy, Technology Manager, Chemicals; H. R. Larsen, Technology Manager, Thermoplastics; R. S. Zalkowitz, Technology Manager, Thermo-setting Products; J. E. Hazell, Senior Research Scientist, Physical Chemistry and Processes; K. P. Singh, Senior Research Scientist, Organic Chemistry; O. O. Gray, Technology manager, Film Products; R. S. Stewart, Technology Manager, Food Casings.

*Laboratory Staff:* Professionals 42, technicians and supporting staff 64.

*Recruiting Contact:* J. B. Ward.

### UNIROYAL LTD.

P.O. Box 130, Place d'Armes, Montreal, P.Q.

*President:* H. D. Glenn.

*Fields of Interest:* Exploratory and applied organic, physical and polymer chemistry and technology of products and processes related to monomers, resins, elastomers, textiles, rubber and industrial chemicals, agricultural chemicals.

*Major Activity of Company:* Mfg. 95%, R&D and other 5%.

*Research Facilities:* Central Research Laboratories in Guelph, with associated Divisional Development Laboratories, Pilot Plants, etc., in Kitchener (tires, rubber and textile products, crash pads, coated fabrics), in Elmira (chemicals, resins) and in Lindsay (textiles, tire cord).

*Laboratory Staff:* Professionals (research chemists, physicists, engineers) 60 and technicians and laboratory staff 55, in Central Research Laboratories, Guelph. Professionals (engineers, chemists) 35 and supporting technicians and laboratory staff 45, in Divisional Development Laboratories in Kitchener and Elmira.

*Recruiting Contact:* J. C. R. Warren, Co-ordinator, R&D, Research Labs., Guelph. W. R. Smith, Mgr. Product Development, Tire Factory, Kitchener; R. D. Habel, Mgr. Technical Dept., General Products Factories, Kitchener; F. M. Hager, Development Mgr., Uniroyal Chemical Div., Elmira.

## INDUSTRIAL RESEARCH FACILITIES

### VARIAN ASSOCIATES OF CANADA, LTD.

45 River Drive, Georgetown, Ontario.

*President:* B. H. Breckenridge.

*Fields of Interest:* Development of reflex klystrons and travelling wave tubes, millimeter klystrons and extended interaction oscillators, infra-red dewars.

*Major Activity of Company:* Mfg. 80%, R&D 20%.

*Research Facilities:* Complete range of facilities required for the design, manufacture and testing of microwave tubes. Chemistry and metallurgical laboratory.

*Research Personnel:* Maurice Viant, Millimeter Devices and Infra-red Dewars; C. Searle, Travelling Wave Tubes; K. Beeker, Waveguide Components; E. R. Smith, Reflex Klystrons; K. A. MacDonald, Chemist.

*Laboratory Staff:* Electrical engineers 6, physical chemist 1, technicians 8.

*Recruiting Contact:* R. B. Wilson.

### VERSAFOOD SERVICES

95 Brockhouse Road, Toronto 520, Ontario.

*President:* Allan D. Baker.

*Fields of Interest:* Food service — business and industry, institutions, mobile and vending, gourmet restaurants.

*Research Facilities:* Research and standards division, food and food systems dev., testing and evaluation of foods and equipment, packaging.

*Research Personnel:* Thomas B. Turner, Manager of Research and Standards; W. S. Hammond, Director R&S.

*Laboratory Staff:* Sal P. Bozzo, Chemical Technologist; Geoff Young, Systems Development; Marilyn Nenadou, Research Dietitian.

*Recruiting Contact:* R. W. King, Versafood Services.

### WARNER-LAMBERT RESEARCH INSTITUTE OF CANADA LTD.

(Division of Warner-Lambert Canada Ltd.)

Sheridan Park, Clarkson, Ontario.

*Vice-President and Director:* George Lumb, M.D., M.R.C.P.

*Fields of Interest:* Research on medium and long-term toxicity of new drugs and in Basic Sciences, mainly cell biology and experimental pathology and toxicology.

## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* R&D 100%.

*Research Facilities:* 30,000 square feet of laboratories and animals' quarters with completely equipped facilities for toxicity testing and basic research, including Biochemistry, Haematology, Cytochemistry and Electron Microscopy.

*Research Personnel:* Dr. George Lumb, Vice-President, Director; Dr. Andrew Diosy, Clinical Research Director; Dr. Felix A. de la Iglesia, Toxicology Director; John R. Stokes, Senior Scientist and Business Manager; Dr. J. C. Sosa-Lucero, Biochemist Scientist; Dr. D. Harding, Scientist; Dr. L. Mitchell, Scientist.

*Laboratory Staff:* Technologists 27, other staff 14.

*Recruiting Contact:* Dr. George Lumb, Vice-President, Director; John R. Stokes, Business Manager.

### WESTEEL-ROSCO LIMITED

1 Atlantic Avenue, Toronto 3, Ontario.

*President:* R. M. Calhoun.

*Fields of Interest:* Metal fabrication of products for the building industry including pre-engineered buildings, highway and drainage including culverts and guardrail, agricultural including grain handling and drying systems, storage including racks, shelving, bins, etc.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* Approximately 1,000 sq. ft. of lab. for testing of products related to our field. Testing equipment includes load cells, strain gauges and test beds.

*Research Personnel:* H. L. Levelt; W. M. Hayman; L. F. P. Alabaster; C. Fung, W. R. Millier; G. P. Koens.

*Laboratory Staff:* H. Nijhof.

*Recruiting Contact:* W. A. Glockling.

### G. H. WOOD & CO., LTD.

P.O. Box 34, Queen Elizabeth Way, Toronto 550, Ontario.

*President:* G. H. Wood.

*Fields of Interest:* Complete range of chemical and mechanical, industrial, sanitation products. Special emphasis placed on products for hospitals, schools and institutions and on the control of airborne and surface bacteria.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 20%, R&D 15%, Testing and Evaluation 5%, Marketing 60%.

*Research Facilities:* Complete chemical laboratory in Toronto to research and develop full range of sanitation products including development and testing of germicidal detergents, disinfectants, waxes and polymer floor finishes, emulsion sealers, insecticides, odour controlling agents, etc.

*Research Personnel:* P. J. Ammann, Director of Chemical Research and Development; W. J. McCurdy, Chief Chemist; H. Kirkwood, Chief Bacteriologist; G. W. Styan, Manager of Product Planning and Development.

*Laboratory Staff:* Jaan Meier, Analytical Chemist; Peter Sharpe, Detergent Chemist; Forward Ball, Wax Chemist; Cathy Rennox, Secretary and Technician.

*Recruiting Contact:* John Dow, Personnel Manager.



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# RESEARCH INDEX ONTARIO • 1971



AGRICULTURE  
ARCHITECTURE  
CHEMISTRY  
COMPUTER SCIENCE  
EARTH SCIENCES  
ENGINEERING  
FORESTRY  
LIFE SCIENCES  
PHYSICS  
and a Summary  
of Reported Industrial  
Research Facilities

Published by  
The Ontario Economic Council





# 1971 RESEARCH INDEX

**Projects being carried on  
within Ontario Government  
Departments and Agencies,  
and in a number of  
Companies operating in  
Ontario in**

**AGRICULTURE  
ARCHITECTURE  
CHEMISTRY  
COMPUTER SCIENCE  
EARTH SCIENCES  
ENGINEERING  
FORESTRY  
LIFE SCIENCES  
PHYSICS**

**and  
a Summary of Reported Industrial  
Research Facilities**

Published by the Ontario Economic Council

3.5M/12/71



## FOREWORD

To the many who in 1970 asked why we did not publish a research index that year we would reiterate the statement that we made on release of our fifth edition in December, 1969. Few significant changes occur annually in on-going research and the index could, in future, serve effectively if it were issued every second year.

This sixth edition is, accordingly, the first of what we would hope might be a continuing series of biennial editions indexing research projects being undertaken by Ontario government departments and agencies, and by companies operating in Ontario, in the fields of agriculture, architecture, chemistry, computer science, earth sciences, engineering, forestry, life sciences and physics.

Also, in light of the numerous requests to include projects in the fields of social and socio-economic studies we would note that we have tried to limit our listings to pure sciences research. We did, however, consider publishing a companion volume which would have indexed on-going research in the afore-mentioned fields but found the task beyond the scope of this Council. Possibly at some later date this whole area might be re-examined.

Again we would draw to the attention of persons using this index that university research is excluded. This exclusion was made in no way to denigrate its very vital role but simply because the National Research Council prepares a listing of all graduate theses and programs in Canadian universities and to have included such herein would have been an unnecessary duplication.

\* \* \* \*

We would particularly like to thank the companies and departments and agencies of the Ontario government whose contributors make this index possible. We would also commend the co-editors Dr. A. D. Misener, Director, Great Lakes Institute, University of Toronto, and Ian Butters of the Ontario Economic Council, whose continuing interest and capable administration make this index a success.

JAMES GILLIES  
*Chairman.*

DECEMBER, 1971



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### **Ontario Water Resources Commission**

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### **Ontario Institute for Studies in Education**

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## **ONTARIO-BASED INDUSTRIAL COMPANIES**

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The purpose of this Index is to provide names of people who may be contracted for the purpose of obtaining further information regarding the projects here listed. Different agencies have different practices in this regard, some prefer you to contact the person most familiar with the work, others prefer that the director of the project or the director of the research division be the initial contact.

In the Directory of Projects, the first name in each project listed is the one the responders have indicated should be your initial contact.

This index lists all the individuals associated with the research. It is our method of giving due credit to those scientists and engineers who are properly proud of their achievements described in this volume.

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## SUBJECT INDEX

As in previous editions, this index has been designed to be the basic cross-reference for any person who wants to know what is being done in Ontario (Universities excepted) with respect to research on a particular item, idea or area. We have therefore listed all submissions to the Index under at least three headings:

- (a) the field of investigation (designated by the investigator) such as analytical chemistry, electrical engineering, metallurgy;  
and
- (b) materials or products, such as herbicides, power transmissions, computer applications;  
and
- (c) indentifiable objects e.g., corn, iron, sweet potatoes or concrete.

In addition to this listing we have selected certain key words from the description provided by the responders and have added these to this Index. For example, anyone interested in the general field of paving materials should consult the projects listed under asphalt, cement, sealing compounds as well as test methods and measurements.

Obviously this cross-index cannot be complete so we urge any reader to use his own intelligence and skim through the final and significant part of the Index. That is the Directory of Projects starting on page 71. Here you will find, under appropriate headings, all the research, all the people, and all the points of contact you need to discover what is happening in research in the scientific and engineering fields in Ontario.

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<sup>1</sup>With Defence Research Board.

<sup>2</sup>With federal Department of Energy, Mines and Resources.

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## INDUSTRIAL RESEARCH FACILITIES

### ABITIBI PAPER COMPANY LTD.

Central Research Division, Sheridan Park, Ontario.

*President:* T. J. Bell.

*Fields of Interest:* Chemistry, physics, chemical and mechanical engineering studies relating to wood pulp, paper, hardwood and plywood, pollution and stream improvement, printability and converted products.

*Major Activity of Central Research Division:* R&D 90%, Testing & Evaluation 5%, Consulting 5%.

*Research Facilities:* Laboratory of 60,000 square feet opened in 1966. Bench laboratories, development laboratories, pilot plant, machine shop, library and related service facilities.

*Research Personnel:* R. M. Dorland, Director of Technical Development; K. G. Booth, Director of Research; D. F. Manchester, Manager of Process Research; J. R. Gunning, Manager of Paper Research; M. M. Yan, Manager of Panelboard Research.

*Laboratory Staff:* Professional staff 19, male technicians and technologists 6, female technicians 5, service staff 10, summer students (1 in 1971).

*Recruiting Contact:* K. G. Booth.

### AEROFALL MILLS LIMITED

2640 South Sheridan Way, Mississauga (Clarkson), Ontario.

*President:* R. C. Meaders.

*Fields of Interest:* Mineral recovery, anti-pollution, materials handling.

*Major Activity of Company:* R&D 40%, Testing & Evaluation 45%, Consulting 15%.

*Research Facilities:* Testing and Research Equipment for Rock and Ore Products. Gas-solids separation equipment.

*Research Personnel:* R. R. Turner, P.Eng., Technical Director; R. S. Hart, PhD, Research Engineer.

*Laboratory Staff:* Laboratory superintendent, laboratory technician, research technician.

*Recruiting Contact:* 1) R. S. Hart.

2) R. R. Turner.

## INDUSTRIAL RESEARCH FACILITIES

### AEROQUIP (CANADA) LTD.

287 Bridgeland Ave., Toronto 390, Ontario.

*President:* D. A. Rungay.

*Fields of Interest:* Process and products mechanical, flexible piping connectors.

*Major Activity of Company:* Mfg. 95%, R&D 1%, Testing and Evaluation 4%.

*Research Facilities:* Necessary equipment for testing and evaluation of flexible piping components.

*Research Personnel:* H. A. Yamanaka.

*Laboratory Staff:* Lab. Technicians 3.

### ANGLO-CANADIAN PULP AND PAPER MILLS, LIMITED

Blvd. des Capucins, Quebec, P.Q.

*President:* W. E. Soles.

*Fields of Interest:* Pulp and paper, chemicals, converting — corrugated boxes and bags.

*Major Activity of Company:* Mfg. 50%, R&D 30%, Testing and Evaluation 10%, Consulting, 5%, Other 5%.

*Research Facilities:* Laboratory — at mill in Quebec City.

*Research Personnel:* O. Sepall, Director; D. L. Baker, B. A. Braid, R. A. Hinton, R. G. LeBel, R. Peterson, O. Prochazka.

*Laboratory Staff:* Photographer 1, librarian 1, stenographer 1, supervisor technicians 4, technicians 6, cleaner 1.

*Recruiting Contact:* R. Malenfant, Manager of Employee Relations.

### AIRCRAFT APPLIANCES & EQUIPMENT LTD.

152 East Drive, Bramalea, Ontario.

*President:* L. V. Myslivec.

*Fields of Interest:* Manufacture of aircraft and industrial electrical systems, filtration and coalescing systems, motor generator sets.

*Major Activity of Company:* Mfg. 55%, R&D 5%, Testing and Evaluation 5%, Resales 35%.

*Research Facilities:* Electrical and hydraulic test laboratories environmental facilities for temperature and vibration.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* O. R. Havelka, P.Eng. Chief Engineer; V. Rizek, P.Eng.

*Laboratory Staff:* Fluids 2, electrical and electronic 2, environmental 1.

*Recruiting Contact:* R. A. Bishop, P.Eng., Vice President, Engineering.

### ALCAN INTERNATIONAL LIMITED

P.O. Box 6090, Montreal, Quebec.

P.O. Box 8400, Kingston, Ontario.

*Vice President of Technology:* M. G. O'Leary.

*Fields of Interest:* Research and development in the field of aluminum and its alloys for the ALCAN group of companies.

*Major Activity of Company:* R&D 80%, Testing & Evaluation 20%.

*Research Facilities:* Kingston, Ontario and Banbury, England. (Arvida, Quebec unit now responsible for separate Division)

*Recruiting Contact:* J. J. Lawless, c/o Aluminum Company of Canada, Ltd., P.O. Box 6090, Montreal, Quebec.

### AMPHENOL CANADA LIMITED

44 Metropolitan Road, Scarborough, Ontario.

*President:* J. V. Malek.

*Fields of Interest:* Electro-mechanical components for electronic equipment; CATV: R F cable and associated interconnecting devices.

*Major Activity of Company:* Manufacturing 90%, R&D 5%, Testing & Evaluation 5%.

*Research Facilities:* 5,000 square feet of engineering, environmental and electrical laboratories. Extensive workshop.

*Research Personnel:* J. P. Nijman, Director; K. Boutros, Project Engineer.

*Laboratory Staff:* T. Whitley, Lab. Supervisor.

*Recruiting Contact:* D. Thomas.

### ANIMAL BREEDING CONSULTANTS LTD.

Box 932, Guelph, Ontario.

*President:* Dr. R. W. C. Stevens.

*Fields of Interest:* Turkey and beef cattle breeding.

## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Consulting 100%.

*Research Personnel:* R. W. C. Stevens, Ph.D., B. S. Reinhart, M.Sc.,  
A. E. Mitchell

*Recruiting Contact:* R. W. C. Stevens.

## ATLAS STEELS COMPANY

(Division of Rio Algom Mines Ltd.)  
Centre Street, Welland, Ontario.

*President:* O. S. Leslie.

*Fields of Interest:* Manufacturing of tool, stainless and speciality steel products.

*Major Activity of Company:* R&D 60%, Consulting 30%, Other 10%.

*Research Facilities:* The research and development laboratories occupy approximately 12,000 sq. ft., and include facilities for metallography, physical testing, heat-treatment and rolling, as well as a library, and office space.

*Research Personnel:* D. J. Knight, Manager, R&D Department; R. O. Carson, W. M. Gibbon, D. A. Whittaker, A. R. Palmer, R. Siddons, R. G. Graham, W. Whitaker, D. Siddell, M. Kent, R. King, C. Bouvet.

*Laboratory Staff:* Lab. foreman 1, technicians 7, stenographic-clerical 3.

*Recruiting Contact:* D. J. Knight.

## ATOMIC ENERGY OF CANADA LIMITED

Head Office: 275 Slater Street, Ottawa, Ontario, K1P 5H9.

Chalk River Nuclear Laboratories: Chalk River, Ontario.

Power Projects: Sheridan Park, Ontario.

Commercial Products: P.O. Box 6300, Postal Station J, Ottawa, Ontario, K2A 3W3.

Whiteshell Nuclear Research Establishment: Pinawa, Manitoba.

*President:* Mr. J. L. Gray.

*Fields of Interest:* Atomic Energy of Canada Limited is responsible for research into development of peaceful uses of nuclear energy, as a contribution to the general welfare and in the interest of scientific and

## INDUSTRIAL RESEARCH FACILITIES

technological progress in Canada. AECL operates laboratories for fundamental and applied research and engineering development; designs and builds nuclear power stations, in cooperation with industry and utilities; provides nuclear consulting services as required; sponsors research and development projects in industry and the universities in the field of nuclear energy; makes available its special facilities and expertise to (i) assist industry and utilities in putting nuclear energy to practical use and (ii) assist the universities in nuclear studies; produces and markets radioactive isotopes for use in medicine, industry, agriculture and research; designs, manufactures and markets equipment for radioisotope use.

*Major Activity of Company:* Manufacturing, Research and Development, Testing and Evaluation, Consulting.

*Research Facilities:* Research and Development sites at Chalk River, Ontario; Sheridan Park, Ontario; and Pinawa, Manitoba.

*Laboratory Staff:* Chalk River Nuclear Laboratories — professional 463, technical 526; Power Projects — professional 266, technical 441; Commercial Products — professional 118, technical 102; Whiteshell Nuclear Research Establishment — professional 157, technical 217.

## AUTOMATIC ELECTRIC (CANADA) LIMITED

100 Strowger Boulevard, Brockville, Ontario.

*President:* C. R. Hughes.

*Fields of Interest:* Development and manufacture of communications switching systems and related equipment including telephone instruments.

*Major Activity of Company:* Manufacturing 5%, R&D 85%, Testing & Evaluation 5%, Consulting 5%.

*Research Facilities:* 7,500 square feet laboratory facilities attached to 364,000 square feet plant in Brockville. Includes model shop, laboratories, computing facility, standards laboratory and office space.

*Research Personnel:* R. W. Duthie, Director of Research and Development.

*Laboratory Staff:* Engineers and specialists 13, technologists 14, technicians 9, draftsmen 2, clerical 5, students 2.

*Recruiting Contact:* G. A. Franklin, Industrial Relations Manager.



## INDUSTRIAL RESEARCH FACILITIES

### WALLACE BARNES COMPANY LIMITED

274 Sherman Ave., North, Hamilton, 23, Ontario.

*President:* G. C. Sessions.

*Fields of Interest:* Design, development, and manufacture of mechanical springs, wire forms, small stamping, and assemblies incorporating spring-like parts.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Physical and metallurgical testing laboratories, corrosion testing facilities.

*Research Personnel:* J. L. Mollberg, Engineering Manager, D. H. Coit, C. E. T., Supervisor Product Engineering, R. Vinal, Supervisor, Material Laboratory.

### BARRINGER RESEARCH, LIMITED

304 Carlingview Drive, Rexdale, Ontario.

*President:* Dr. A. R. Barringer.

*Fields of Interest:* Development, manufacture and sale of (a) air pollution measuring instruments, (b) geophysical exploration instruments. Research and development of electro-optical techniques for instrumentation and remote sensing. R & D of radio and electromagnetic methods of prospecting.

*Major Activity of Company:* Manufacturing and Airborne Operations, Exploration Services, R&D, Consulting 2%, Lease and Rentals 10%.

*Research Facilities:* UV, visible and IR spectrometers, 5,000 sq. ft. lab space allocated to R&D use. Low gradient magnetometer test facility electro-optical laboratory. Photographic facilities. Electronic instrument development facilities.

*Research Personnel:* J. H. Davies, Manager; J. D. McNeill, Senior Physicist; A. J. Moffat, Senior Engineer; L. Beaudette, Programmer; R. Dick, Optical Physicist; M. Failes, Optical Designer; G. Levy, Theoretical Physicist; M. Millan, Mathematician; G. Motycka, Opto-Mechanical Engineer; J. Nor, Electronics Engineer; T. Orton, Electronics Engineer; M. Paul, Electronics Engineer; R. Quinney, Atmospheric Physicist; H. Zwick, Theoretical Physicist; J. L. Walker, Geochemist; P. Bradshaw, Geochemist; F. Jagodit, Geophysicist.

*Laboratory Staff:* Electronic technicians 7, mechanical technicians 4, lab technicians 4, draftsmen 4, machine shop 2, photographer 1.

*Recruiting Contact:* J. Davies.



## INDUSTRIAL RESEARCH FACILITIES

### BELL-NORTHERN RESEARCH

P.O. Box 3511, Station "C", Ottawa, Ontario.

*President:* Dr. Donald Chisholm.

*Fields of Interest:* Development of electronic switching systems, microwave radio systems, wire and cable development, miniature, telephone crossbar switch, satellite systems, solid state physics, large scale integrated semiconductor circuitry, coaxial cable systems and acoustics.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Central Laboratories in Ottawa which provide development of switching and transmission, research and device development, cable development and systems engineering. Branch laboratories at Lachine for wire and cable development, Montreal for transmission systems; Belleville for PBX and data terminals; Bramalea for electronic switching crossbar and apparatus; and London for telephone apparatus.

*Research Personnel:* W. C. Benger, Vice-President, Transmission Development; Dr. F. S. Eadie, Vice-President, Research; W. J. Inkster, Vice-President, Systems Engineering; W. J. Pardy, Vice-President, Cable and Apparatus Development; R. W. Quirk, Vice-President of Administration; H. L. Webster, Vice-President, Switch Development; A. C. Johnston, Comptroller and Secretary-Treasurer; J. C. R. Punchard, Executive Officer; E. H. Hayes, Director Quality Ass.; W. R. Tims, Director Wire and Cable Development.

*Laboratory Staff:* Engineers 700, technologists 600, support staff 500.

*Recruiting Contact:* V. H. Earle, Personnel Manager.

*Information Contact:* W. Mantle, Manager of Public Relations.

### THE BORDEN CHEMICAL COMPANY (CANADA) LIMITED

595 Coronation Drive, West Hill 785, Ontario.

*President:* G. J. Ray.

*Fields of Interest:* Formaldehyde, aldehyde resins, emulsion polymers, PVC films, adhesives, inks.

*Major Activity of Company:* Manufacturing 98%, R&D 2%.

*Research Facilities:* Fully equipped research and development and control laboratories for the development and testing of products within the company's sphere of interests.

*Research Personnel:* T. Larson, Vice-President and Technical Director; B. B. J. Wood, Manager, R & D Laboratory; R. Miki, Manager, Manufacturing and Engineering.

## INDUSTRIAL RESEARCH FACILITIES

*Laboratory Staff:* Ph.D. (Chemistry) 2, graduate chemists 12, technicians 8, engineers 2.

*Recruiting Contact:* T. Larson.

### BORG-WARNER (CANADA) LIMITED

Long Manufacturing Division  
P.O. Box 608, Oakville, Ontario.

*President:* J. H. McCreery.

*Fields of Interest:* This company's field of interest is the development, manufacture and marketing of small heat exchangers, including automotive and agricultural radiators, oil coolers and heat exchangers for use in the agricultural, automotive and industrial fields.

*Major Activity of Company:* Mfg. 96%, R&D 3%, Testing and Evaluation 1%.

*Research Facilities:* Located at Malton and comprising over 14,000 sq. ft., include metallurgical, engineering design and manufacturing engineering facilities of pilot plant type.

*Research Personnel:* D. M. Donaldson, Vice-President and Dir. Engineering and Marketing; C. S. Argyle, Chief Engineer; E. D. Hart, Project Engineer; D. Rudd, Metallurgist.

*Laboratory Staff:* Technicians 3.

*Recruiting Contact:* J. S. Byatt, Personnel Manager.

### BURLINGTON STEEL COMPANY

Division of Slater Steel Industries Limited  
P.O. Box 271, Hamilton, Ontario.

*President:* H. O. Jones.

*Fields of Interest:* Manufacturing of strand cast steel billets, hot rolled steel sections, and grinding balls.

*Major Activity of Company:* Manufacturing 100%.

*Research Facilities:* Production plant and testing laboratories of Burlington Steel Co.

*Research Personnel:* M. Reinbergs, Chief Metallurgist; J. D. Hemmingsen, Melt Shop Superintendent.

*Laboratory Staff:* W. S. Bradshaw, W. Brown, G. Weise, B. Hey, W. MacRae, F. Kivell.

*Recruiting Contact:* R. A. Morris, Manager, Industrial Relations.

## INDUSTRIAL RESEARCH FACILITIES

### CAMPBELL SOUP COMPANY LIMITED

Agricultural Research Department

5589 Hurontario Street, R.R. #6, Mississauga, Ontario.

*President:* J. M. Lindley.

*Fields of Interest:* Tomato breeding, tomato culture, potato variety evaluation, carrot variety evaluation, sweet pea variety evaluation, testing of herbicides on vegetable crops.

*Major Activity of Company:* Manufacturing 100%.

*Research Facilities:* Laboratory at 5589 Hurontario Street, Mississauga, leased farm land at Streetsville, contracted farm land at Chatham.

*Research Personnel:* J. F. Moore; S. W. Squire.

*Laboratory Staff:* Mrs. C. Conn; J. G. Belford; C. H. McHaffie.

### CANADA PACKERS LIMITED

95 St. Clair Avenue West, Toronto 7, Ontario.

*President:* W. F. McLean.

*Fields of Interest:* Full line of meat products manufactured in plants across Canada; edible oil products, shortening, margarine, frying fats, salad oil; feeds for poultry, swine, beef and dairy animals; fine chemicals, pharmaceuticals, fatty acids, gelatine; leather, poultry products, cheese and miscellaneous.

*Major Activity of Company:* Mfg.

*Research Facilities:* The research facilities are located at 2211 St. Clair Ave. West, Toronto 9, Ont. These include 40,000 sq. ft. of laboratory space plus pilot plant facilities in oils, meats and fine chemicals. A new meat pilot plant (2,000 sq. ft.) was completed in 1969. A library, taste-panel area, animal rooms and other specialized facilities are provided.

*Research Personnel:* Leon J. Rubin, Director of Research, H. W. Barnett, Assistant Director of Research, P. Ziegler, Assistant Director of Research, R. Witty, Assistant Director of Research, G. W. Burgess, Laboratory Administrator; R. G. Donovan, Group Leader, Leather; T. F. Massiah, Group Leader Chemical Development; F. M. Misiak, Librarian; H. R. Nordin, Group Leader, Meats; C. H. Perrin, Group Leader, Analysis Research; B. F. Teasdale, Group Leader, Oils; D. Van Binnendyk, Statistics.

*Recruiting Contact:* G. W. Burgess, Laboratory Administrator.

## INDUSTRIAL RESEARCH FACILITIES

### CANADA WIRE AND CABLE COMPANY LIMITED

147 Laird Drive, Leaside, Ontario.

*President:* J. H. Stevens.

*Fields of Interest:* Development, manufacture and sale of a broad range of commercial and military cables and accessories.

*Major Activity of Company:* Manufacturing 5%, R&D 30%, Testing & Evaluation 45%, Consulting 20%.

*Research Facilities:* Modern laboratories for research and development are divided into five basic areas of specialization at the company's head office in Toronto. The following well-equipped laboratories have been established: physical and metallurgy; polymeric; high voltage and radio frequency. The company's magnet wire laboratory is situated at Simcoe, Ontario. These facilities are primarily involved with studies of materials and processes relating to wire and cable applications.

*Research Personnel:* R. K. Alexander, Chief Engineer; S. M. Jaczek, Manager, Product, Development.

*Laboratory Staff:* Professional scientists and engineers 19, technical support personnel 30.

*Recruiting Contact:* R. K. Alexander, Chief Engineer.

### CANADIAN ACME SCREW & GEAR COMPANY LIMITED

207 Weston Road, Toronto, Ontario.

*President:* L. E. Hamilton.

*Fields of Interest:* Mechanical and hydrostatic transmissions gear technology.

*Major Activity of Company:* Manufacturing 95%, R&D 5%.

*Research Facilities:* Engineering design department, dynamometer, laboratory, prototype shop facilities.

*Research Personnel:* J. Miura, S. Fridrich, J. Russell, H. Murishita.

*Laboratory Staff:* L. Adler, J. Sergalis.

## INDUSTRIAL RESEARCH FACILITIES

### CANADIAN CANNERS LIMITED

44 Hughson Street South, Hamilton, Ontario.

*President:* L. H. Johnston.

*Fields of Interest:* Processed fruits and vegetables, soups, catsup, pickles, jams, jellies, marmalade, glace fruit, other food specialties; can and label manufacturing.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Completely equipped research facilities at 1101 Walker's Line, Burlington, Ontario. The Research Centre occupies 12,000 square feet and comprises product research, microbiology and chemistry departments, as well as a library.

*Research Personnel:* C. J. Ross, Research Manager.

*Laboratory Staff:* Chemists 7, microbiologists 2, technicians 6, other 4.

*Recruiting Contact:* R. G. Teasdale, Industrial Relations Manager.

### THE CANADIAN COLEMAN COMPANY LIMITED

9 Davies Avenue, Toronto 8, Ontario.

*President:* L. C. Whealy.

*Fields of Interest:* Outdoor and leisure time products, mobile home and recreational vehicle products, heating and air conditioning equipment.

*Major Activity of Company:* Manufacturing 20%, R&D 50%, Testing & Evaluation 20%, Consulting 10%.

*Research Facilities:* Fully equipped laboratory for liquid and gaseous fuel testing and recording.

*Research Personnel:* T. C. Hastings, P.Eng., Design Engineer; E. Szarga, Engineering Technician.

*Laboratory Staff:* E. Szarga, Engineering Technician.

*Recruiting Contact:* R. Howard, Factory Personnel Manager.



## INDUSTRIAL RESEARCH FACILITIES

### CANADIAN FILTERS LIMITED

277 William Street South, Chatham, Ontario.

*President:* M. J. Ripley.

*Fields of Interest:* Automotive air cleaners, engine air intake temperature control, automotive exhaust emission controls, automotive engine cooling fans.

*Major Activity of Company:* Manufacturing 25%, R&D 40%, Testing & Evaluation 25%, Consulting 10%.

*Research Facilities:* Air cleaner and air flow laboratory, thermal devices laboratory, emissions control vehicles, exhaust emissions analysis laboratory, prototype manufacturing shops, fan air flow laboratory, experimental stress analysis, fatigue and materials laboratories.

*Research Personnel:* G. E. Weir, Engineering Manager, Air Cleaner & Emission Devices; G. Maddocks, Product Engineer, Thermal Devices; V. Gregorio, Product Engineer, Air Filtration; W. H. Kearsley, Project Manager, Emission Devices; U. Schneider, Product Engineer, Emission Devices; J. Kearns, Product Engineer, Emission Devices; K. H. Strick, Engineering Manager, Fans; R. M. MacEwan, Development Engineer, Fans; H. Kho, Product Engineer, Fans.

*Laboratory Staff:* Laboratory supervisor 1, laboratory technologist 3, laboratory technician 11, drafting technician 8, prototype shop technician 14.

*Recruiting Contact:* D. E. Foster.

### THE CANADIAN GAS ASSOCIATION

55 Scarsdale Road, Don Mills, Ontario.

*Managing Director:* W. H. Dalton.

*Fields of Interest:* Certification and testing laboratories, sponsorship of fuel-fired appliance standards, research and development for the gas industry.

*Major Activity of Company:* R&D 17%, Testing & Evaluation 68%, Other 15%.

*Research Facilities:* Complete testing facilities for gas, oil and electrical appliances and accessories.

*Research Personnel:* H. Wank, Director, Laboratories & Engineering; R. L. Hay, Chief Engineer; J. A. Toms, Laboratory Engineer; L. H. Gilbert, Standards Engineer; D. W. Rumble, Research Engineer; S. W. Khoo, Project Engineer; H. A. Andersen, Research Technician; F. D. Williamson, Research Technician.



## INDUSTRIAL RESEARCH FACILITIES

*Laboratory Staff:* Ph.D. 1, professional engineers 5, engineering technologists 3, technicians 11, other 4.

*Recruiting Contact:* Director, Laboratories & Engineering.

### CANADIAN GENERAL ELECTRIC COMPANY LIMITED

214 King Street West, Toronto 1, Ontario.

*President:* W. G. Ward.

*Major Activity of Company:* R&D 7%, other 93%.

*Research Facilities:* Facilities are decentralized and contiguous to manufacturing plants. The character and size of each facility is governed by the nature and type of products associated with each plant and its growth objectives.

*Recruiting Contact:* H. E. J. Holloway, Manager Engineering and Scientific Recruitment.

### CANADIAN INDUSTRIES LIMITED

Paint Research Laboratory.

1330 Castlefield Avenue, Toronto, Ontario.

*President:* E. L. Hamilton.

*Fields of Interest:* Paint Research Laboratory is primarily concerned with research and development leading to new or improved products, and technical service to customers on existing products of the Paints Division of CIL. The products are automotive, refinish and industrial coatings and resins for retail coatings. It is also concerned with development of new methods of formulation, testing and process improvement.

*Major Activity of Company:* Manufacturing 100%.

*Research Facilities:* Equipment duplicating plant processing of paints, coatings and resins. Completely equipped analytical laboratory, physical testing laboratory and supporting instrumentation service. Completely equipped exposure service laboratory.

*Research Personnel:* J. H. Michell, Technical Manager; C. H. Kaufmann, Group Leader — Automotive Finishes; I. G. Morrison, Group Leader, Industrial Finishes; G. B. Gibson, New Materials Coordinator; I. H. McEwan and W. Connelly, Group Leaders, Long Term Exploratory Research and Special Projects.

*Laboratory Staff:* Graduate technical staff 23, technicians 48, clerical 6, servicemen 5.

*Recruiting Contact:* J. H. Michell.

## INDUSTRIAL RESEARCH FACILITIES

### CANADIAN INDUSTRIES LIMITED

Plastics Technical Centre

142 Kennedy Road South, Brampton, Ontario.

*President:* E. L. Hamilton.

*Fields of Interest:* Plastics Technical Centre is primarily concerned with the development of new or improved polyethylene resins or compounds, the evaluation of processing and physical characteristics and the development of improved methods of producing plastic films. Development for new uses for plastic films and packages.

*Major Activity of Company:* Manufacturing 100%.

*Research Facilities:* Equipment duplicating the major fields of plastics processing, e.g. film making, wire and cable coating, paper coating, pipe making, etc. Supporting physical test laboratories and machine shop facilities. Equipment for evaluating new packaging methods and plastic film usages.

*Research Personnel:* J. A. Durno, Laboratory Manager; N. M. Peacock, Group Leader (Film); W. G. Sorochnan, Group Leader (Resin); C. R. Murray, Technical Supervisor, Industrial Packaging.

*Laboratory Staff:* Graduate technical staff 5, technicians, toolmakers, stenographers 18.

*Recruiting Contact:* J. A. Durno.

### CANADIAN INDUSTRIES LIMITED

Vaughan Centre

8200 Keele Street, P.O. Box 150, Concord, Ontario.

*President:* E. L. Hamilton.

*Fields of Interest:* Development, plant service and quality control of Trade Sales and Maintenance Finishes.

*Major Activity of Company:* Manufacturing 100%.

*Research Facilities:* Equipment duplicating plant processing of paints and coatings.

*Research Personnel:* R. L. Heppolette, Technical Superintendent; C. J. Firmin, Research and Development Supervisor.

*Laboratory Staff:* Graduate technical staff 4, technicians 7, clerical 1, servicemen 1.

*Recruiting Contact:* R. L. Heppolette.

## INDUSTRIAL RESEARCH FACILITIES

### CANADIAN KODAK CO., LTD.

3500 Eglinton Avenue West, Toronto 15, Ontario.

*President:* R. L. Christie.

*Fields of Interest:* Investigation and development of photographic sensitized products, processes and equipment.

*Major Activity of Company:* Manufacturing 94%, R&D 1.5%, Testing & Evaluation 4.5%.

*Research Facilities:* Laboratories situated throughout the manufacturing complex are used on a shared basis for research, development and testing.

*Research Personnel:* 38 chemists and chemical engineers.

*Recruiting Contact:* Personnel Department.

### CANADIAN PITTSBURGH INDUSTRIES LIMITED

50 St. Clair Avenue West, Toronto 7, Ontario.

*President:* F. J. Doyle.

*Fields of Interest:* Protective and decorative organic coatings, polyester resins, adhesives. Structural glass and metal for construction trades.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* For organic coatings: gas chromatograph, infrared spectrophotometer, weatherometer, salt spray, pigment dispersion equipment, electrodeposition equipment, microscopes, application and curing equipment. For flat glass: distorsion analyser, physical and optical testing equipment.

*Research Personnel:* Dr. H. O. Farr, Vice-President Corporate Research and Development; J. Peeters, Glass Research; J. A. Ferguson, Metals Research.

*Laboratory Staff:* Chemists 22, engineers 3, technicians 10.

*Recruiting Contact:* J. A. Finlayson.

### CANRON LIMITED

160 St. Joseph Blvd., Lachine 640, Quebec.

*President:* H. J. Lang.

*Fields of Interest:* Development of hydraulic drilling equipment for mining use, laser and infrared guidance systems for mobile machinery, laser measurement systems for machine tools and solid state motor and alternator controls.

## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* Two laboratories: — one electronic, one electrical and mechanical. Equipment, oscilloscopes, laser-helium neon chart recorders, signal generators and small test equipment. Both laboratories located at: — Canron Ltd., 160 St. Joseph St., Lachine 640, Que.

*Research Personnel:* W. J. Tyler — Mgr. New Product Development; J. Devlin — Senior Development Engineer, Drive Systems Dept. — Electrical Division.

*Laboratory Staff:* Engineers 2, designers 3, technicians 2.

### CANRON LIMITED

1121 Place Ville Marie, Montreal 113, Quebec.

*President:* H. J. Lang.

*Fields of Interest:* Manufacture of iron and concrete pressure pipe and related products for municipal and industrial applications.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* 60 Vulcan Street, Rexdale 604, Ontario.

*Research Personnel:* W. F. Semenchuk, P.Eng.

*Laboratory Staff:* Professional engineers 2, certified technologists 2, research technicians 2.

### CANTEST LIMITED

55 Scarsdale Road, Don Mills, Ontario.

*President:* W. H. Dalton.

*Fields of Interest:* Research and Development service for industry, chiefly in fuel-fired equipment.

*Major Activity of Company:* R&D 75%, Testing and Evaluation 25%.

*Research Facilities:* Analysis of fuel and combustion products, including trace air pollutants. Complete facilities for testing gas, oil and electrical equipment and accessories.

*Research Personnel:* H. Wank, Vice-President, Research; R. L. Hay, Chief Engineer; D. W. Rumble, Project Engineer; S. W. Khoo, Project Engineer; H. Anderson, Research Technician; F. D. Williamson, Research Technician.

*Laboratory Staff:* Ph.D. 1, professional engineers 5, engineering technologists 3, technicians 11, other 4.

*Recruiting Contact:* Vice-President, Research.

## INDUSTRIAL RESEARCH FACILITIES

### CENTRAL ELECTRIC WIRE LTD.

1 North Street, Perth, Ontario.

*President:* R. J. Smallian.

*Fields of Interest:* Manufacturing of fine wires used in fourdrinier wire cloth for paper industry, round and rectangular wire all tempers from soft to spring in large range alloys. Only Canadian Manufacturer of layer wound MIG welding electrodes in stainless steel, copper base and high nickel alloys.

*Major Activity of Company:* Mfg. 93%, R&D 5%, Testing and Evaluation 2%.

*Research Facilities:* New laboratory 3000 square feet thoroughly equipped for (1) chemical analysis metals by conventional wet and colorimetric technique and by X-ray fluorescent method, (2) physical testing of metals and organic filaments, (3) metallographic and general testing of alloys, (4) photography.

*Research Personnel:* A. Bennell, Vice-President & General Manager; C. Lewis, Plant Metallurgist; A. Downham, Plant Engineer; G. Palmer, Plant Draftsman.

*Laboratory Staff:* Technicians 3.

*Recruiting Contact:* A. Bennell.

### CHRYSLER CANADA LTD.

P.O. Box 60, Windsor 19, Ont.

*President:* R. W. Todgham.

*Fields of Interest:* Manufacture of cars, trucks, engine and related components.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Design and development staff working in the areas of transportation and material handling.

*Research Personnel:* J. J. Cale, Manager, Research and Special Products Division; R. J. Von Ritschl, Manager, Special Products Engineering.

*Recruiting Contact:* R. J. Von Ritschl, Manager, Research and Special Products Engineering.



## INDUSTRIAL RESEARCH FACILITIES

### CIP RESEARCH LTD.

Hawkesbury, Ontario.

*President:* G. D. Hughson.

*Fields of Interest:* R&D in fields of pulping, bleaching, papermaking, wood chemistry, by-products, etc., related to the manufacture of newsprint kraft paper and board, dissolving pulp, building products and other products of the parent company, Canadian International Paper Company.

*Major Activity of Company:* R&D 98%, Testing & Evaluation 2% for parent company, Canadian International Paper Co.

*Research Facilities:* Laboratories for applied and fundamental research, and pilot plants for pulping, bleaching and end product evaluation in Hawkesbury; pilot plants for pulping and papermaking in Gatineau, Quebec.

*Research Personnel:* W. B. Cranford, Director, Administrative; Dr. D. B. Mutton, Director, Scientific; D. T. Roy, Director, Primary Products Development; J. K. Watson, Manager, New Product Development.

*Laboratory Staff:* Chemists 17, chemical engineers 19, physicists 2, botanists 2, mechanical engineers 4, technicians 86, other 20.

*Recruiting Contact:* W. J. I. Kitchen, Administrative Assistant.

### COMPUTING DEVICES OF CANADA, LIMITED

P.O. Box 8508, Ottawa, Ontario, K1G 3M9.

*President:* E. B. Daubney.

*Fields of Interest:* Research and Development — Avionics navigation and display systems, oceanics, anti-submarine warfare, photo-optical systems, tele-communications, military digital computer systems, industrial and scientific systems design, hypervelocity research and high "g" environmental telemetry, thrust measurement.

*Major Activity of Company:* Mfg. 64%, R&D 23%, Testing and Evaluation 10%, Consulting 3%.

*Research Facilities:* 65,000 square feet: Modern R&D building located near Ottawa. Supporting Services include: drafting facilities; electronic laboratories equipped with a variety of general and special purpose electronic testing equipment; fully equipped model shop; environmental testing chambers for electronic hardware; a company-designed developed digital computer, control data 6400 computer, and a technical library.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* E. W. Wallick, Senior Vice-President; R. J. Patton, Vice-President, Engineering; J. Alexander, Director Avionics Development; J. M. DeVries, Director, Research & Technology; E. Truschuk, Director, Data Systems Analysis Division.

*Laboratory Staff:* A total of 93 graduate engineers or scientists with an average of 8 years' professional experience: 8 hold Master's degrees and 2 hold Doctorate degrees. Support staff consists of 292 technicians, technologists and administrators having an average of 14 years' experience.

*Recruiting Contact:* E. R. Barrett, Director, Industrial Relations.

### CONSOLIDATED-BATHURST LIMITED

P.O. Box 69, Montreal 101, P.Q.

*President:* W. I. M. Turner.

*Fields of Interest:* Kraft papers, kraft pulp (bleached and unbleached), paper towels, sanitary tissues, newsprint, paperboard, paper bags, plastic bags, bag packing equipment, corrugated containers, wooden boxes, wood-corrugated boxes, hardwood and softwood lumber, plastic squeeze tubes, plastic boxes and bottles, splicing films.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Research Centre consisting of laboratories and pilot plant located at Grand'Mere. Container research laboratories located at St. Laurent, P.Q.

*Research Personnel:* Dr. O. J. Walker, Director of Research & Technical Services, Mfg.; B. B. Mithel, Director of Research & Technical Services, Packaging; Dr. A. M. Ayroud, Assistant Director, Research & Development; L. Josefsson, Manager, Papermaking; Dr. D. G. T. Cooper, Manager, Administrative Services.

*Laboratory Staff:* Chemists 8, engineers 7, support 25.

*Recruiting Contact:* Dr. D. G. T. Cooper.

### CONTROLS COMPANY OF CANADA LIMITED

39 Burwell Road, St. Thomas, Ontario.

*President:* F. O. Hipwell, General Manager.

*Fields of Interest:* Electric Motors (AC and DC), fuel oil controls, domestic appliance equipment, (e.g. pressure switches, solenoids, water valves.)

*Major Activity of Company:* R&D 20%, Testing and Evaluation 50%, Consulting 30%.



## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Oil Control Laboratory, Electric Motor Laboratory, Engineering and Drafting Office.

*Research Personnel:* P. A. Kershaw, Manager Engineering Dept.; P. Vyas, Mechanical Engineer; G. Dennis, Supervisor, Motors.

*Laboratory Staff:* G. Robbins, L. Lawlis, F. Krack, C. Keating, K. Dennis.

*Recruiting Contact:* P. A. Kershaw, Manager Engineering Dept.

### DOMINION BRIDGE COMPANY LIMITED

555 Notre Dame Street, Lachine, Quebec.

*President:* M. McMurray.

*Fields of Interest:* Design fabrication and erection of bridges, buildings, pressure vessels and other heavy engineering structures.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Metallographic and mechanical testing equipment and a variety of welding and support equipment.

*Research Personnel:* D. E. H. Reynolds, Manager of Technical Services; B. Graville, Supervisor, Technical Research.

*Laboratory Staff:* Engineers (metallurgical) 3, engineers (welding) 1, technicians 8.

### DOMINION COLOUR CORPORATION LIMITED

199 New Toronto Street, Toronto 500, Ontario.

*President:* D. Robb.

*Fields of Interest:* Manufacture of synthetic coloured inorganic and organic pigment.

*Major Activity of Company:* Mfg. 17%, R&D 57%, Testing and Evaluation 10%, Consulting 16%.

*Research Facilities:* Approximately 3,600 sq. ft. of laboratory area is equipped with facilities for laboratory preparation of pigments and with a variety of equipment for the dispersion and evaluation of pigments in various media.

*Research Personnel:* J. S. Wright, Technical Director; J. D. Easton, Asst. Tech. Director; W. H. McMillan; S. Elphick; V. Kulkarni; L. Hui; J. Grodzinski.

*Laboratory Staff:* Chemists 7, technicians 13.

*Recruiting Contact:* Dr. J. D. Easton, Asst. Technical Director.

## INDUSTRIAL RESEARCH FACILITIES

### DOMINION STEEL & COAL CORP. LTD.

(Subsidiary of SIDBEC)

Head Office — P.O. Box 249, Montreal 101, Quebec.

Montreal Works — P.O. Box 67, Montreal, Quebec.

Contrecoeur Works — P.O. Box 100, Contrecoeur, Quebec.

Etobicoke Works — P.O. Box 500, Rexdale, Ontario.

Truscon Works — P.O. Box 100, Station "S", Montreal, Quebec.

*President:* J. P. Gignac.

*Fields of Interest:* Production of sheet steel, structural steel, rod, bar and wire products and welded pipe from raw materials through finished products. Application of the above products. Development of practices for the use of direct reduced iron in electric furnaces and the production of quality steels by strandcasting.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* In plant process development and research for product quality improvement, process improvement, new product development and cost improvement. New 28,000 sq. ft. laboratory at Contrecoeur Works equipped for process control and development.

*Research Personnel:* Y. Roy, Montreal Works; M. Levesque, Contrecoeur Works; J. G. Evans, Etobicoke Works Executive Office.

*Laboratory Staff:* Metallurgical engineers 15.

*Recruiting Contact:* W. F. Zepfel, Director of Metallurgy.

### DOUGLAS AIRCRAFT COMPANY OF CANADA LIMITED

Toronto A.M.F., Ontario.

*President:* R. D. Richmond.

*Fields of Interest:* Aircraft manufacture.

*Research Facilities:* Canadian Defense Forces approved laboratory.

*Research Personnel:* P. H. Blakesley, Chief Materials and Process Engineer.

*Recruiting Contact:* J. R. Brooks, Chief Administrative Engineer.

### DOW CHEMICAL OF CANADA, LIMITED

Sarnia, Ontario.

*President:* L. D. Smithers.

*Fields of Interest:* Manufacture of chemicals, plastics and pharmaceuticals.

## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Research, development and pilot plant facilities located at Sarnia and Edmonton.

*Research Personnel:* B. B. Hillary, Research Manager, H. W. Quinn, Assistant Research Manager, D. M. Young, Assistant Research Manager.

*Recruiting Contact:* A. Korpan, Industrial Relations.

## DOWTY EQUIPMENT OF CANADA LIMITED

574 Monarch Avenue, Ajax, Ontario.

*President:* R. F. Hunt.

*Fields of Interest:* Aerospace: Aircraft landing gears, hydraulic accessories, fuel pumps, wheels, brakes, brake control equipment. Industrial: Industrial and vehicle hydraulic devices and controls, tension rendering winches.

*Major Activity of Company:* Mfg. 93%, R&D 2%, Testing and Evaluation 5%.

*Research Facilities:* Mechanical and hydraulic test equipment including one landing gear drop test machine. A 60 ton capacity 60 foot tower for dead weight testing. Two cold temperature test chambers. Vibration and tensile test equipment. A 200,000 lb. capacity universal testing machine.

*Research Personnel:* E. W. Waring, Head, Research & Development Department; R. J. Harding, Design Engineer.

*Laboratory Staff:* Professional engineers 2, engineering technologists 9, technicians 4.

*Recruiting Contact:* Mrs. M. Waude.

## DUNLOP RESEARCH CENTRE

Sheridan Park, Mississauga, Ontario.

*General Manager:* J. A. Carr.

*Fields of Interest:* Organic and polymer chemistry and polymer physics.

*Major Activity of Company:* R&D 95%, Testing and Evaluation 5%.

*Research Facilities:* About 20,000 sq. ft. laboratories, offices, etc.

*Research Personnel:* F. K. Lautenschlaeger, Manager, Chemical Research Group; A. D. Dingle, Manager, Polymer Sciences Group; Dr. D. W. Brazier, Manager, Materials Evaluation & Services Group.

*Laboratory Staff:* About 20 graduates with equal number of technicians and supporting staff.

*Recruiting Contact:* H. G. Deline, Manager, Administration.

## INDUSTRIAL RESEARCH FACILITIES

### DU PONT OF CANADA LIMITED

P.O. Box 660, Montreal 101, Quebec.

*President:* Edgar H. Bleckwell.

*Fields of Interest:* Chemicals — adipic acid, adiponitrile, hexamethylene diamine, cyclohexanone, cyclohexanol, surface active agents, "Freon" fluorocarbons, hydrochloric acid and hydrogen peroxide. Explosives — commercial explosives and blasting agents. Films — "cellophane" cellulose film, "Sclairfilm" polyolefin films, packaging and industrial polyethylene films, "Vexar" plastic netting, "Tynex" and "Herex" nylon monofilament and "Fabrene" woven tape structures. Finishes — "Duco", "Dulux" and "Lucite" finishes for the automotive original equipment and refinish markets. Plastics — "Sclair" polyolefin resins and "Sclairpipe" polyethylene pipe. Fibres — nylon continuous filament yarns and staple fibre including "Antron" nylon and "Orlon" acrylic fibre and "Lycra" spandex fibre, "Dacron" polyester fibre.

*Major Activity of Company:* Manufactured with supporting R&D.

*Research Facilities:* Central Research Laboratory, Kingston, Ont., with laboratory and pilot plant facilities. Laboratories for applied research and development, particularly associated with manufacturing at Sarnia, Ajax, Whitby, Kingston, Maitland, Nipissing and Shawinigan Works. Customer development projects for Customer Technical Centre, Kingston.

*Research Personnel:* Dr. H. E. Hoerig, Vice-President, Research & Development; Dr. O. C. W. Allenby, Manager, Research Division; Dr. J. M. Stewart, Manager, Central Research Laboratory, Kingston, Ontario; Dr. J. Klassen, Technical Manager, Maitland; W. E. Bell, Manager, Plastics Group, Customer Technical Centre; G. R. Biddle, Manager, Films Group, Customer Technical Centre; D. J. Crawford, Manager, Fibres Group, Customer Technical Centre; G. L. Armstrong, Manager, Chemicals Group, Customer Technical Centre.

*Laboratory Staff:* In 1970 there were 145 technical employees.

*Recruiting Contact:* S. W. Albright, Personnel Manager, Employee Relations Division, Head Office, Montreal.

### ELDORADO NUCLEAR LIMITED

151 Slater Street, Ottawa, Ontario.

*President:* W. M. Gilchrist.

*Fields of Interest:* Uranium mining, milling and refining. Production of nuclear grade zirconium metal. Development and production of high density nuclear fuels.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* R&D 5%, Mining and Refining 95%.

*Research Facilities:* Metallurgical Laboratory at Ottawa, Ontario. Research and Development Group at Port Hope, Ontario. Mill Testing Laboratory at Eldorado, Saskatchewan.

*Research Personnel:* G. F. Colborne, General Manager, Refining and Research; F. W. Melvanin, Manager, R & D Division; J. L. Hart, Assistant Manager, R & D Division.

*Laboratory Staff:* Chemists and chemical engineers 10, metallurgists and metallurgical engineers 2, laboratory technicians 19, secretarial and library personnel 2.

*Recruiting Contact:* F. W. Melvanin, Manager, R & D Division.

## ELECTRIC REDUCTION COMPANY OF CANADA LIMITED 2 Gibbs Road, Islington, Ontario.

*President:* L. G. Lillico.

*Fields of Interest:* Elemental phosphorus and various industrial phosphates, notable sodium tripolyphosphate. Phosphatic fertilizers and feed supplements. Chemicals used in the pulp and paper industry, notably sodium chlorate and chlorine dioxide.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Approximately 12,000 sq. ft. of laboratory and pilot plant space located at 2 Gibbs Rd., Islington, Ontario.

*Research Personnel:* J. D. McGilvery, Tech. Mgr. Industrial Phosphates Division; R. Swindells, Research Mgr. Pulp and Paper Chemicals Division; G. E. Tafler, Process Dev. Mgr. Industrial Phosphates Division.

*Laboratory Staff:* Chemists 2, engineer 1, technicians 3, other 1.

*Recruiting Contact:* R. W. Read.

## FALCONBRIDGE NICKEL MINES LIMITED 7 King Street East, Toronto 1, Ontario.

*President:* M. A. Cooper.

*Fields of Interest:* Mining, extraction and refining of metals.

*Major Activity of Company:* Mfg. 96%, R&D 4%.

*Research Facilities:* Laboratories located Thornhill, Ontario, fully equipped for development of processes and products, including chemical, spectrochemical and mineralogical facilities.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* H. T. Berry, Vice-President, Metallurgy and Research; P. G. Thornhill, Director of Research; C. L. Lewis, Manager, Process Control; R. A. Bergman, Manager, Metallurgical Laboratories.

*Laboratory Staff:* Engineers 12, scientists 16, technologists 28, technicians 15, supporting staff 24.

*Recruiting Contact:* W. E. Burrows.

### FERRO ENAMELS (CANADA) LIMITED

354 Davis Road, Oakville, Ontario.

*President:* M. M. Reagan.

*Fields of Interest:* Manufacturers of porcelain enamel frit, coloured oxides, plastic colours, polyester gel coats, plastic stabilizers, ceramic glazes.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Five fully equipped laboratories.

*Research Personnel:* F. Becker, H. J. Ronne, A. A. Arcari.

*Laboratory Staff:* Chemical graduates 6, technicians 15.

*Recruiting Contact:* G. O. Zeller.

### FIBERGLAS CANADA LIMITED

Head Office — 48 St. Clair Ave. W., Toronto 195, Ontario.

Technical Centre: P.O. Box 3005, Sarnia, Ontario.

Plants: Insulation: Sarnia, Ont., Edmonton, Alta., Montreal, P.Q.,

Textile: Guelph, Ont.,

*President:* A. J. Fisher.

*Fields of Interest:* Research and development in the area of fibrous composite materials (glass and other fibres, bonding materials, reinforced composites).

*Major Activity of Company:* Mfg. 97%, R&D 2.0%, Testing and Evaluation .5%, Other .5%.

*Research Facilities:* Materials Research and Development-Technical Centre, Sarnia, Ont. Insulating Product Development, Sarnia, Ont. Textile (Reinforcing) Products Development-Guelph, Ont.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* F. W. Henkelman, Vice-President Research & Engineering; K. P. Gladney, Manager Research and Development; H. J. Bartlett, Manager General Products Development; F. W. Maine, Manager of Research; R. P. Rao, Inorganic Chemical Research; M. K. Peters, Analytical Research and Services.

*Laboratory Staff:* R&D professionals 20, R&D technicians 23, Product Standards & Evaluation — professionals 1, technicians 5.

*Recruiting Contact:* D. J. Mattason, Manager Industrial Relations.

## FLEET MANUFACTURING LTD.

Box 300, Fort Erie, Ontario.

*President:* R. K. Fraser.

*Fields of Interest:* Airframe manufacturing, design, development and manufacture of sonar and radar. Design, development and manufacture of hardware in the field of oceanology. Research and development of new materials and techniques in the Aerospace field.

*Major Activity of Company:* Mfg. 98%, R&D 1%, Testing and Evaluation 1%.

*Research Facilities:* Materials testing facility including fatigue testing, radiography, ultrasonic etc.

*Research Personnel:* A. F. Kemeny, D. B. Muggeridge, W. Pfeiffer, Consultant.

*Laboratory Staff:* Technicians 2.

*Recruiting Contact:* H. Hagen, Personnel Manager.

## FLUID POWER LIMITED

282 Belfield Road, Rexdale, Ontario.

*President:* W. L. Hutchison.

*Fields of Interest:* Hydraulic Systems and controls, fluidics, seals, composite plastics, filament winding, hydraulic acceleration.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* New laboratory just completed with capability for experimentation, testing and measurement in hydraulic and fluidics fields including high pressures. Also facilities for filament winding.

*Research Personnel:* A. Van Eyken, Research Manager; J. Vitko, Research Engineer.



## INDUSTRIAL RESEARCH FACILITIES

*Laboratory Staff:* G. E. Williamson, M. L. Colavecchia, T. P. Caston and A. Kamarudin — Temporary.

*Recruiting Contact:* A. Van Eyken.

### GARRETT MANUFACTURING LIMITED

255 Attwell Drive, Rexdale, Ontario.

*Vice President & General Manager:* W. C. Tate.

*Fields of Interest:* Aircraft temperature control systems; radio emergency beacons and downed aircraft locators; air data computer test equipment, including pneumatic signal generators and pressure monitors; hybrid micro-electronic circuits and precision thin film resistor elements; marine products including deck machinery and ship-to-ship transfer systems.

*Major Activity of Company:* Mfg. 80%, R&D 13%, Testing and Evaluation 2%, Other 5%.

*Research Facilities:* 13,500 square feet of development laboratories and office space, model shop and fully equipped and approved environmental test facility.

*Research Personnel:* R. R. Taylor, Chief Engineer; R. J. Richardson, B. W. Atkinson, G. W. Rose, Dr. R. S. Sennett, P. K. Lucas, Research & Development Project Heads.

*Laboratory Staff:* Professional 42, technical 40.

*Recruiting Contact:* Mrs. M. Pascoe, Employee Services Administrator.

### GENERAL FOODS LIMITED

2200 Yonge Street, Toronto 12, Ontario.

*President:* R. S. Hurlbut.

*Fields of Interest:* Powdered dessert and beverage mixes, coffees, chocolate products, processed cereals, rice and pet foods, potato chips and snack products, away-from-home foods and cosmetics.

*Major Activity of Company:* Mfg., R&D (internal).

*Research Facilities:* Laboratory and pilot plant located at 520 William St., Cobourg, Ontario, and 795 90th Avenue, LaSalle, P.Q.

*Research Personnel:* W. R. Mason, Manager of Technical Resources; N. J. Fairbairn, Research Manager; G. G. Nelson, Laboratory Manager (Cobourg); W. R. Waring, Laboratory Manager (LaSalle).

## INDUSTRIAL RESEARCH FACILITIES

*Laboratory Staff:* Chemists and food scientists 19, chemical engineers 6, microbiologists 2, support staff 28.

*Recruiting Contact:* N. J. Fairbairn.

## GEOCON LIMITED

14 Haas Road, Rexdale, Ontario.

*President:* M. A. J. Matich.

Geophysical Engineering & Surveys Limited,  
Box 49, Toronto-Dominion Centre, Toronto, Ontario.

*President:* J. L. May.

*Fields of Interest:* Minerals exploration, using geologic, geophysical and geochemical techniques. Airborne electromagnetics: research with Barringer Research Limited.

*Major Activity of Company:* R&D 10%, Testing and Evaluation 10%, Consulting 80%.

*Research Facilities:* Small all-wood building for electromagnetic experiments. Office space in Toronto-Dominion Centre for computer programming for data reduction and interpretation.

*Research Personnel:* D. C. Fraser.

*Laboratory Staff:* Electronic-technologists 2.

*Recruiting Contact:* M. M. Steiner.

## GILSON MANUFACTURING COMPANY LIMITED

53 Victoria Road, S., Guelph, Ontario.

*President:* A. J. Kendrick.

*Fields of Interest:* Compactors, garbage.

*Major Activity of Company:* Mfg. 80%, R&D 10%, Testing and Evaluation 2%, Consulting 4%, Other 4%.

*Research Facilities:* Testing laboratory, tool design; experimental mechanical laboratory.

*Research Personnel:* G. MacDonald, J. M. Simmons, C. M. McDonald.

*Laboratory Staff:* L. Goetz, E. Carroll.

*Recruiting Contact:* G. MacDonald.

## INDUSTRIAL RESEARCH FACILITIES

### GLIDDEN COMPANY

Division of SCM (Canada) Limited  
351 Wallace Avenue, Toronto, Ontario.

*President:* J. W. Fowler.

*Fields of Interest:* Manufacture and sale of protective and decorative coatings, resins, latices, adhesive, caulking compounds.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* 12,000 square feet laboratory area. Fully equipped polymer and coatings research laboratory.

*Research Personnel:* Dr. G. G. Davis, Technical Director; Dr. C. Rickard, Scientist; Dr. A. Dunlop, Scientist.

*Laboratory Staff:* About 30 chemists, engineers and technicians.

*Recruiting Contact:* W. E. Lennox.

### GOULD MANUFACTURING OF CANADA, LIMITED

275 Lewis Street, Fort Erie, Ontario.

*President:* D. H. Shaw.

*Fields of Interest:* Fuel cells, Nickel-Zinc batteries.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Fully equipped electro-chemical laboratory.

*Research Personnel:* K. V. N. Rao; K. Bukatko; G. V. Ramaiah; J. R. Cherukuri.

*Laboratory Staff:* Chemists 2, engineers 2, technicians 4.

*Recruiting Contact:* D. H. Shaw.

### W. R. GRACE & CO. OF CANADA LTD.

Cryovac Division  
2365 Dixie Road, N., Mississauga, Ontario.

*President:* P. J. Harris.

*Fields of Interest:* Plastic, paper foil and laminated films for packaging. Packaging methods equipment and materials.

*Major Activity of Company:* Mfg. 96%, R&D 3%, Testing and Evaluation 1%.

*Research Facilities:* Offices, labs., irradiation facility, extrusion and coating equipment.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* R. A. Bolton, W. V. Bowerman, G. Moeller, J. Molnar, F. Harrington, W. V. Saunders, L. K. Bednar, A. D. Clewes, W. Hundley, J. Burrows.

*Laboratory Staff:* H. Alksnys, L. Delvaux.

*Recruiting Contact:* J. Gray.

## GREENING DONALD LTD.

Box 430, 55 Queen St. North, Hamilton, Ontario.

*President:* H. S. Baldwin.

*Fields of Interest:* Wire rope technology, including extra high strength wire rope, swaged rope, prestressed wire rope and strand for buildings, specialized wire rope and strand assemblies. Wire and wire products technology.

*Major Activity of Company:* Mfg. 95%, R&D 3%, Testing and Evaluation 2%.

*Research Facilities:* New laboratory with x-ray spectrograph and diffractometer and other equipment for chemical and metallurgical analysis. Physical testing equipment including 600,000 lb. tensile test machine.

*Research Personnel:* Chief of Engineering, plus research and development personnel.

*Laboratory Staff:* Metallurgical Lab. 3, Physical Testing Lab. 2.

*Recruiting Contact:* W. R. Thornback, Personnel Manager.

## THE GRIFFITH LABORATORIES, LIMITED

757 Pharmacy Avenue, Scarborough, Ontario.

*President:* L. G. Rector.

*Fields of Interest:* The Griffith Laboratories are food chemists, manufacturing products and materials for the food processing industry — meat packers, bakers, canners, pickle makers and convenience food manufacturers.

*Major Activity of Company:* R&D 50%, Testing and Evaluation 50%.

*Research Facilities:* 6,038 sq. ft. well-equipped for analytical work. Includes well-equipped sausage kitchen and pilot plant for cereal work.

*Research Personnel:* J. S. Wenzel, Vice President Technical; Dr. J. A. Ziegler, Director of Research; A. H. Klopp, Technical Director; J. E.

## INDUSTRIAL RESEARCH FACILITIES

Connell, Manager Development Laboratory; D. V. Dyson, Manager, Breeding Laboratory; R. M. Friesen, Manager, Meat Laboratory.

*Laboratory Staff:* Chemists 10, technicians 10.

*Recruiting Contact:* R. J. Page.

### GUILDLINE INSTRUMENTS LTD.

Box 99, Smiths Falls, Ontario.

*President:* J. Sutcliffe.

*Fields of Interest:* High precision electrical measurement.

*Major Activity of Company:* Mfg. 75%, R&D 10%, Testing and Evaluation 15%.

*Research Facilities:* Development laboratories with electronics, microscopy, chemical and high vacuum equipment.

*Research Personnel:* I. Malcolm, R&D Engineer.

*Laboratory Staff:* Professional engineers 2, technicians 2, others 3.

*Recruiting Contact:* I. Malcolm.

### GULF OIL CANADA LIMITED

Research and Development Department

2489 North Sheridan Way, Sheridan Park, Ontario.

*President:* Dr. J. McAfee.

*Fields of Interest:* Research and development of petroleum, petrochemicals and chemical products and processes.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Product development laboratories, fuels and lubricants performance evaluation laboratories, analytical research laboratories, pilot plants. Our research department covers 62,000 sq. ft.

*Research Personnel:* R. M. Donald, Manager, Research & Development Dept.; D. D. Zakaib, Director, Technical Operations; B. M. Hewat, Director, Services; B. C. St. George, Coordinator, Petroleum Product Development; R. E. Leveque, Coordinator, Analytical Research, R. J. Freure, Coordinator, Special Projects.

*Laboratory Staff:* Total of 122. Professionals 62 and technicians and technologists 60. Ph.D. chemists 12, M.Sc. chemists 5, M.Sc. physicist 1, M.Sc. metallurgist 1, M.Sc. chemical engineers 2, B.Sc. chemists 25, B.Sc. chemical engineers 12, B.Sc. physicist 1, B.Sc. mechanical engineering 2, B. Sc. electrical engineering 1.

*Recruiting Contact:* B. M. Hewat, Director, Services.



## INDUSTRIAL RESEARCH FACILITIES

### H. J. HEINZ COMPANY OF CANADA LTD.

Erie Street South, Leamington, Ontario.

*President:* A. Forsyth.

*Fields of Interest:* Pure food production. Pure food technology.

*Major Activity of Company:* Mfg. 33⅓ %, R&D 33⅓ %, Testing and Evaluation 33⅓ %.

*Research Facilities:* Food research laboratory, quality control laboratory, small mechanical engineering laboratory.

*Research Personnel:* J. C. Ingratta, R. D. Sanderson, K. F. Shaw, L. G. Dawson, D. D. Taylor, D. Davie, C. B. Coyle, B. Cole, D. Smit, R. H. Rosen, K. Beyer, R. B. Marshall, R. S. Down.

*Laboratory Staff:* P. Brown, J. Rahm, W. Cowan, A. Morgan, W. Willms, S. Perroni, G. Hutchinson, L. Stickles, D. Janik, A. Harms, C. B. Breckenridge, H. Beniuk, M. Bunke, M. Wales, A. Alaers, J. Kraus.

*Recruiting Contact:* E. E. Litt.

### HORTON STEEL WORKS LIMITED

20 Jennet Street, Fort Erie, Ontario.

*President:* G. H. Crase, Toronto, Ontario.

*Executive Vice-President:* R. E. Croop, Fort Erie, Ontario.

*Fields of Interest:* Welding, plate structures and metal membranes.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Welding and physical testing facilities. Also non-destructive testing facilities.

*Research Personnel:* I. R. Gottschlich, P.Eng., Welding Engineer.

*Laboratory Staff:* 10 supporting staff.

*Recruiting Contact:* L. M. Guest.

### HOWDEN APCO RESEARCH LIMITED

1510 Birchmount Road, Scarborough, Ontario.

*President:* M. F. Caffrey.

*Fields of Interest:* Air flow through centrifugal and axial fans and blowers. Design studies. Testing, evaluation and development of prototype scale model units. Overspeed testing of commercial blower wheels.



## INDUSTRIAL RESEARCH FACILITIES

*Major Activity of Company:* R&D 45%, Testing and Evaluation 45%, Consulting 10%.

*Research Facilities:* Two A.M.C.A. test rigs, each fully equipped for 36½ inch dia. model wheel performance testing. One vacuum chamber for overspeed tests of fan and blower wheels up to 48 inch dia.

*Research Personnel:* C. H. Pettersson, Manager; D. Basu-Roy; R. M. Miller; B. N. Wappett

*Laboratory Staff:* C. H. Pettersson; D. Basu-Roy; R. M. Miller; B. N. Wappett

*Recruiting Contact:* C. H. Pettersson.

### HUSKY MANUFACTURING & TOOL WORKS LIMITED

530 Queen Street South, P.O. Box 1000, Bolton, Ontario.

*President:* R. D. Schad.

*Fields of Interest:* Research and development in equipment for the processing of plastics, particularly in the injection molding field; automation of handling, molding, assembling, etc.

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 3%, Other 2%.

*Research Facilities:* 7,700 sq. ft. of Research Laboratories, consisting of machine and mold testrooms, electrical laboratory and design offices.

*Recruiting Contact:* H. Rees.

### HUYCK CANADA LIMITED

Kenwood Place, Arnprior, Ontario.

*President:* J. K. Melville.

*Fields of Interest:* Developing and marketing water removal devices and fabrics used in the pulp and paper industry.

*Major Activity of Company:* Mfg. 95%, R&D 5%.

*Research Facilities:* Laboratory and pilot plant space located at Arnprior, Ontario and Kentville, Nova Scotia.

*Research Personnel:* D. M. Margeson, Manager Product Development; R. D. Burgher, Manager Product Engineering; T. A. C. Wood, Manager Felt Development; P. Mullaney, Fabric Development Manager; E. Huus, Manager Felt Design.

*Laboratory Staff:* Professionals 12, Technicians 14.

*Recruiting Contact:* J. Maidment, Manager Industrial Relations.

## INDUSTRIAL RESEARCH FACILITIES

### HYBRID TURKEYS LIMITED

100 Ottawa Street North, Kitchener, Ontario.

*President:* Milo D. Shantz.

*Fields of Interest:* The development of superior strains of domestic turkeys, utilizing the principles of genetics, physiology and veterinary medicine.

*Major Activity of Company:* R&D 50%, Testing and evaluation 50%.

*Research Facilities:* Diamond White Research Farm consists of experimental hatchery, capacity for 12,000 eggs, breeder barn with 64 pedigree breeding pens and 240 individual breeder cages. Brooding and growing barn with small pens for individual test lots. Growing and conditioning barn of 16,000 sq. ft. Elsewhere there is a data handling centre which prepares data for computer analysis. Pinehill Development Farm with 30,000 sq. ft. of growing facilities for field testing new strains and crosses.

*Research Personnel:* R. W. C. Stevens; B. S. Reinhardt; L. T. Weeden.

*Laboratory Staff:* J. Given, A. Robinson, B. Hertel, T. Heeney.

*Recruiting Contact:* R. W. C. Stevens.

### IBM CANADA LIMITED

1150 Eglinton Avenue East, Don Mills 402, Ontario.

*President:* W. V. Moore.

*Fields of Interest:* Data processing systems and supplies; office products and supplies.

*Major Activity of Company:* Mfg., R&D, Consulting, Contract Programming.

*Research Facilities:* Facilities located on the site of the company headquarters in Don Mills, Ontario.

*Research Personnel:* B. B. Goodfellow, Director, IBM Canada Ltd., Laboratory.

*Recruiting Contact:* L. W. Wiffen, Personnel Administrator IBM Canada Ltd. Laboratory.

## INDUSTRIAL RESEARCH FACILITIES

### IMPERIAL OIL ENTERPRISES LTD.

Research Department, P.O. Box 3022, Sarnia, Ontario.

*President:* J. G. Livingstone.

*Fields of Interest:* Petroleum processes and products. Petro-chemicals — raw materials, intermediates, plastics, additives.

*Research Facilities:* Approximately 120,000 sq. ft. of laboratory, pilot plant and engine test facilities with all necessary modern equipment and analytical tools. Also in Sarnia is the Plastics Applications Laboratory in which part of the function is application research. An associated laboratory in Montreal does research on building products and there are producing and exploration labs in Calgary.

*Research Personnel:* Dr. C. H. Caesar, Manager; Dr. C. T. Steele, Assistant to the Manager and Manager, Chemicals Division; R. B. Berkoff, Manager, Operations Division, Dr. C. W. Bowman, Manager, Petroleum Division.

J. Eng, Research Advisor, Fuel Processing; J. A. Lefebvre, Research Advisor, Asphalt; Dr. I. S. Pasternak, Senior Research Chemist, Olefins and Industrial Chemicals, W. C. Pattenden, Research Advisor, Lube and Wax Quality, C. B. Rugar, Research Advisor, Fuel Quality; A. J. Stephenson, Senior Research Chemist, Analytical; W. H. Stover, Senior Research Chemist, Additives; Dr. J. Walker, Research Advisor, Lube Processing; J. R. Wallace, Senior Research Chemist, Polymers.

*Recruiting Contact:* Dr. C. T. Steele.

### INDUSTRIAL ADHESIVES LIMITED

90 Tycos Drive, Toronto, Ontario.

*President:* C. Kalthoff.

*Fields of Interest:* Adhesives coatings and sealants.

*Major Activity of Company:* Mfg. and R&D.

*Research Facilities:* 1000 sq. ft. research laboratory in Toronto plant equipped with gas chromatograph, infracord spectrophotometer and pyrolysis; 500 sq. ft. laboratory at new Montreal plant.

*Research Personnel:* D. L. Adam, R. L. Benness, I. Hartmanshenn, A. E. Polhill, A. Dabald.

*Laboratory Staff:* M. Alvarez, J. Patel.

*Recruiting Contact:* D. L. Adam.

## INDUSTRIAL RESEARCH FACILITIES

### INMONT CANADA LIMITED

845 Wyandotte Street, Windsor 14, Ontario.

*President:* Dr. N. P. Beckwith.

*Fields of Interest:* Protective coatings, plastics, foams — rigid and flexible, adhesives, sealants.

*Major Activity of Company:* R&D 75%, Testing and Evaluation 25%.

*Research Facilities:* Approximately 5,000 sq. ft. laboratories, offices etc.

*Research Personnel:* L. S. Hughes, A. J. Conen, R. E. Pond, W. Rasmusson, D. McHardy.

*Laboratory Staff:* Chemist and chemical Engineers 10, Laboratory technician and lab support 18.

*Recruiting Contact:* L. S. Hughes.

### THE INTERNATIONAL NICKEL CO. OF CANADA LIMITED

Toronto-Dominion Centre, Toronto 111, Ontario.

*President:* A. P. Gagnebin.

*Fields of Interest:* Mining. Extracting and refining of nickel and associated elements.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* A fully equipped laboratory and miniplant comprising 72,000 sq. ft. is located at Sheridan Park and three research stations (pilot plants) are located at Port Colborne.

*Research Personnel:* J. S. Warner, Director; A. Illis, Research Manager; M. C. Bell, Section Head, Pyrometallurgy; V. A. Ettel; Section Head, Electrochemistry; J. G. Morrow, Section Head, Minerals Engineering; P. J. Ryan, Section Head, Hydrometallurgy; C. M. Duesing, Senior Research Geologist; J. A. E. Bell, Superintendent Research Stations.

*Laboratory Staff:* The laboratory staff totals 144 and consists of 59 professional, 61 technicians and 24 supporting personnel. The research stations staff totals 228 of which 43 are professionals.

*Recruiting Contact:* B. J. Boughen, Administrator, Office services.

## INDUSTRIAL RESEARCH FACILITIES

### GEORGE KELK LIMITED

48 Lesmill Road, Don Mills, Ontario.

*President:* G. F. Kelk.

*Fields of Interest:* Electronic, mechanical and optical devices and systems for industrial automation.

*Major Activity of Company:* Mfg. 50%, R&D 35%, Testing and Evaluation 5%, Consulting 10%.

*Research Facilities:* Approximately one-quarter of 17,000 sq. ft. engineering and manufacturing building. Electronic, mechanical and optical laboratory equipment.

*Research Personnel:* H. Reddering, Chief Engineer, assisted by six designers and five senior technicians.

*Recruiting Contact:* A. C. Sharp, Operations Manager.

### KYSOR INDUSTRIAL OF CANADA LIMITED

95 Erie Street South, P.O. Box 1060, Ridgetown, Ontario.

*President:* H. E. Wick.

*Fields of Interest:* Metal stampings and assemblies, metal finishing, builders hardware, trailer loads equalizing hitches.

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 5%.

*Research Facilities:* Limited to design, tool room sample shop and simple test facilities.

*Research Personnel:* M. D. Green, Vice President, Engineering.

### JOHN LABATT LIMITED

451 Ridout Street North, London 12, Ontario.

*President:* N. E. Hardy.

*Fields of Interest:* Beer and ale, wines, flour, starches, glutens, packaged foods, dairy products, confectionery, food and feed supplements, fine chemicals.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Experimental farm, Putnam, Ontario; beverage science laboratories, London, Ontario; Food research and development laboratories, London, Ontario and Montreal, Quebec; Fine chemical laboratories, Montreal, Quebec.



## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* Dr. B. Shelton, Director of Beverage Science; Dr. J. Holme, Director of Food Research and Development Department; Dr. C. Podesva, Director of Research, Fine Chemicals.

*Laboratory Staff:* Professional scientist and engineers 53, technical supporting personnel 61.

*Recruiting Contact:* B. Deacon, London, Ontario.

## LEVER BROTHERS LIMITED

1 Sunlight Park Road, Toronto 250, Ontario.

*President:* A. J. Rae.

*Fields of Interest:* Manufacturing and marketing of consumer products — soaps, detergents, toilet goods, industrial cleaners and specialties.

*Major Activity of Company:* Mfg. 30%, R&D 40%, Testing and Evaluation 30%.

*Research Facilities:* Laboratories staffed by 20 engineers, chemists and technicians.

*Recruiting Contact:* Miss E. Hawkins.

## LIBBY, McNEILL AND LIBBY OF CANADA LIMITED

330 Richmond Street, Chatham, Ontario.

*President:* Eric Egan.

*Fields of Interest:* Manufacturing, processing and marketing of food products, both canned and frozen.

*Major Activity of Company:* R&D 50%, Testing and Evaluation 50%.

*Research Facilities:* Agricultural research laboratory equipped for analytical work on soils and plants. A ten acre testing field for field plot experiments. A product improvement and new product development laboratory.

*Research Personnel:* R. J. Hall, Research Agrologist; D. A. Pugh, Agricultural Technologist; H. R. Klinck, Food Technology Research Manager.

*Laboratory Staff:* G. C. Bristow, Quality Control Manager, L. J. Luter, Quality Control Supervisor.

*Recruiting Contact:* E. R. Oke, Director of Administration and Distribution; D. G. Baker, Manager, Personnel Services.



## INDUSTRIAL RESEARCH FACILITIES

### THOMAS J. LIPTON LIMITED

307 Orenda Road, Bramalea, Ontario.

*President:* R. K. Porter.

*Fields of Interest:* Dehydrated foods, canned meat products, frozen desserts.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Total staff of 7, approximately 2,500 sq. ft.

*Research Personnel:* Dr. R. L. Maurer, M. R. Tremblay, James Lacely, Henry Davis.

*Laboratory Staff:* Mrs. Ann Datema, Mrs. M. Kungle.

*Recruiting Contact:* M. Douglas.

### MARSLAND ENGINEERING LIMITED

350 Weber Street North, Waterloo, Ontario.

*President:* L. H. Marsland.

*Fields of Interest:* Electro-mechanical-optical displays and recorders, meteorological instrumentation (airport visibility systems), audio equipment and components (amplifiers, speakers, transformers), data communications equipment (teleprinters, digitizers, encoders, decoders, modems), ordnance hardware.

*Major Activity of Company:* Mfg. 90%, R&D 8%, Testing and evaluation 2%.

*Research Facilities:* Engineering design and drafting office, electronics laboratories, model shop, quality assurance laboratory, photographic laboratory, IBM system 360/20-5 computer (operated by Satellite Computer and Communications Systems Limited.)

*Research Personnel:* F. Moritz, Manager of Engineering; A. S. Armstrong, Chief Design Engineer; F. D. Leeson, Senior Product Research Engineer.

*Laboratory Staff:* Systems engineer 2, Electronics engineer 7, Electronics technicians 5, Mechanical technicians 6, Metallurgical technician 1, Draftsmen 9.

*Recruiting Contact:* J. Shillington, Personnel Manager.

## INDUSTRIAL RESEARCH FACILITIES

### MASSEY-FERGUSON LIMITED

200 University Avenue, Toronto 1, Ontario.

*President:* A. A. Thornbrough.

*Fields of Interest:* Agricultural, industrial and construction equipment.

*Major Activity of Company:* R&D 50%, Testing and Evaluation 50%.

*Research Facilities:* Toronto Engineering Department, Massey-Ferguson Industries Limited, 915 King Street, West, Toronto 1, Ontario.

### MILLTRONICS LIMITED

730 The Kingsway, Peterborough, Ontario.

*Vice-President and General Manager:* J. P. Gemmell.

*Fields of Interest:* Automatic process control, devices and sensors, systems engineering industrial mineral and non metallic ores.

*Major Activity of Company:* Mfg. 40%, R&D 7%, Testing and Evaluation 3%, Other-Systems Engineering 50%.

*Research Facilities:* Research facilities for investigation in the fields of electrical/electronic particle size, cyclone behaviour.

*Research Personnel:* S. A. Sage, Director Research; B. F. Osborne, Senior Research Engineer; J. G. Saunderson, Research Engineer.

*Recruiting Contact:* S. A. Sage.

### MOLSON BREWERIES OF CANADA LIMITED

1555 Notre Dame Street East, Montreal 133, Quebec.

*President:* J. T. Black.

*Fields of Interest:* Production of beer, new methods, materials, by-product utilization.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* The Research Laboratories, located at our main plant in Montreal, cover an area of 8,000 sq. ft. and comprise of a development laboratory, a gas-chromatography and flavour research laboratory, a biochemistry laboratory, a microbiological laboratory as well as a pilot plant and a library. Major equipment available includes, in addition to the pilot plant, two gas chromatographs, a fraction collector, and infrared spectrophotometer, an auto-analyzer for sugars and/or amino acids, a freeze-drier, a spectrodensitometer, an ultra-violet

## INDUSTRIAL RESEARCH FACILITIES

visible range spectrophotometer, various columns and other equipment associated with the foregoing.

*Research Personnel:* Z. Valyi, G. E. A. Van Gheluwe, Dr. M. Dadic, A. Buday, A. M. Jamieson, E. C. H. Chen, G. Belleau, F. Kovacs, Miss M. Morrison, Miss M. Lestage.

*Laboratory Staff:* J. McKee, J. G. Lavalee, Miss D. Lafontaine.

*Recruiting Contact:* D. H. Stanely, Manager, Staff Personnel Service.

### MONSANTO CANADA LIMITED

425 St. Patrick Street, LaSalle, Quebec.

*President:* A. G. Erdman.

*Fields of Interest:* Polymers, organic, inorganic and agricultural chemicals, textile fibres foams, calendered vinyl products, coatings.

*Research Facilities:* Woodbridge, Ont.: Process technology and product development laboratory, urethane foams. Oakville, Ont.: Process technology and products development laboratory, calendered vinyl products and vinyl compounds.

*Research Personnel:* Woodbridge: B. A. Murray, Manager, Process Technology and Engineering; Oakville: M. Medgessy, Manager, Process Technology and Engineering.

*Laboratory Staff:* Woodbridge: Professionals 8, technicians 7, Oakville: Professionals 8, technicians 14.

*Recruiting Contact:* W. K. Frymoyer.

### NORTHERN ELECTRIC COMPANY LIMITED

Central Laboratories

P.O. Box 3511, Station "C", Ottawa, Ontario.

*President:* V. O. Marquez.

*Fields of Interest:* Development of satellites and ground stations, electronic and crossbar switching systems, wire and cable development, transmission equipment, microwave radio systems, microcircuitry, ferrite research, solid state physics, development of telephone sets and other telecommunication equipment.

*Major Activity of Company:* Mfg. 85%, R&D 10%, Testing and Evaluation 5%.

*Research Facilities:* Central laboratories at Ottawa and six regional laboratories at other Canadian centres.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* Dr. D. A. Chisholm, Vice-President; J. C. R. Punchard, Assistant Vice-President; Dr. F. S. Eadie, Director of Research; R. W. Quirk, Director of Administration; W. C. Benger, Director of Transmission Development; W. J. Inkster, Director of Systems Engineering; E. H. Hayes, Director of Quality Assurance; H. L. Webster, Director of Switching Development; W. R. Tims, Director of Wire and Cable Development.

*Laboratory Staff:* Engineers 700, technologists 600.

*Recruiting Contact:* V. H. Earle, Personnel Manager.

*Information Contact:* R. H. Tanner, Manager Scientific Information.

## NORTHERN RADIO MANUFACTURING CO. LIMITED

1950 Bank St., Ottawa 10, Ontario.

*President:* J. G. MacMillan.

*Fields of Interest:* Data transmission and related fields.

*Research Facilities:* 1000 sq. ft. well equipped lab at 1950 Bank St. Additional 1000 sq. ft. well equipped lab at 1927 Bank St.

*Research Personnel:* A. C. Smart, T. N. Haines, V. Nerurkar, A. Gronas, B. Moyles, J. Henry, R. Ahluwalia, J. Sarkar.

*Laboratory Staff:* W. Jessome, A. Vandebelt, M. Lemay, B. West, T. Hayes.

*Recruiting Contact:* J. G. MacMillan.

## NORTON RESEARCH CORPORATION (CANADA) LIMITED

P.O. Box 690, Chippawa, Ontario.

*President:* J. Jeppson.

*Fields of Interest:* Research and development in the fields of abrasives, refractories and high temperature technology (1500-2800°C).

*Major Activity of Company:* R&D 90%, Testing and Evaluation 10%.

*Research Facilities:* Modern laboratories for R&D on abrasives and refractories, including analytical, x-ray and microscopic labs. Pilot plant facilities for projects involving arc furnaces, high frequency furnace, chemical and/or ceramic engineering processes.

*Research Personnel:* R. A. Rowse, Vice-President and Managing Director.

*Laboratory Staff:* 8 engineers and scientists, 15 technicians, 2 others.

*Recruiting Contact:* Dr. J. E. Patchett, Assistant Director of Research.

## INDUSTRIAL RESEARCH FACILITIES

### ONTARIO-MINNESOTA PULP AND PAPER CO. LIMITED

Fort Frances, Ontario.

*President:* Juan del Valle.

*Fields of Interest:* Pulp and paper manufacture, pulpwood usage.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* 20,000 sq. ft. lab at International Falls, Minn. which includes pilot equipment for pulping, bleaching, paper coating and sizing and printing. Also included are analytical lab equipment, specialized paper testing facilities, infrared analysis, paper splitting equipment, microscopic and photomicrographic equipment and a research library.

*Research Personnel:* W. H. McPherson, Director; C. M. Thureen, Group Leader, Paper Research; E. H. Madison, Group Leader, Pulp Research; R. E. Summer, Research Associate, By-Products Research.

*Laboratory Staff:* Professional 9, technical supporting personnel 10.

*Recruiting Contact:* W. H. McPherson.

### ONTARIO RESEARCH FOUNDATION

Sheridan Park, Ontario.

*President:* W. R. Stadelman.

*Fields of Interest:* Aerothermodynamics, air pollution, chemical process development, combustion systems, composite materials, construction materials, corrosion, electron microscopy, engineering evaluation and development, enzymes, glass and ceramics, high power ultrasonics, industrial and applied microbiology, instrumentation and electronics, inorganic building materials, ion implantation, machine and instrument design and development, metal fatigue, mineral processing, organic building materials, pesticide analysis, physical metallurgy, polymers, process metallurgy, pulp and paper technology, pulping industry wastes, pyrometallurgy, reverse osmosis, sewage treatment processes, solid waste disposal processes, stress analysis, surfactants, synthetic organic chemistry, textile finishing and fiber modification, thin film technology, waste water treatment, water re-use, food science.

*Major Activity of Company:* Contract research and development for industrial mining and commercial companies, industrial associations and groups, governmental departments, government agencies, etc., involving (a) improvement and development of industrial process, (b) evaluation improvement and development of products, (c) technical-economic studies and analysis, (d) technical studies of social or economic problems.



## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Modern, well-equipped, 180,000 square feet laboratory, and a 31,400 square feet pilot plant facility located in the Sheridan Park Research Community.

*Laboratory Staff:* Professional scientists and engineers 100, technical supporting personnel 125.

*Inquiries regarding facilities and services write:* Director, Department of Project Development.

*Recruiting Contact:* Personnel Officer.

## ORENDA LIMITED

Box 6001, Toronto International Airport, Ontario.

*President:* M. E. Davis.

*Fields of Interest:* Design and manufacture of industrial and aeronautical gas turbines, specialized testing equipment, testing and calibration services.

*Major Activity of Company:* Mfg. 91%, R&D 3%, Testing and evaluation 3%, Consulting 1%, Other 2%.

*Research Facilities:* R&D labs: Materials services (engineering, welding, metallurgy, chemistry); Testing services (mechanical, environmental, instrumentation, nuclear). Honeywell H4200 computer; HP2114A computer; variety of test rigs, standards facilities, electrical/electronics lab., machine shop, etc.

*Research Personnel:* N. W. Beattie, D. G. Cleghorn, D. R. Dance, Dr. R. M. Farrell, J. Grant, N. B. Herbert, D. Little, W. D. Paul, J. T. Purvis, N. Stowell, W. R. Symmons, R. B. Taylor, Miss M. C. Teeter.

*Laboratory Staff:* 17 Engineers and scientists, 50 technicians.

*Recruiting Contact:* C. Marsden.

## ORTHO PHARMACEUTICAL (CANADA) LTD.

19 Green Belt Drive, Don Mills, Ontario.

*President:* R. L. Mackenzie.

*Fields of Interest:* Contraceptive reproduction studies, pre-clinical toxicology, pharmacological screening, endocrinological screening (bio assay), clinical studies on oral contraceptives, clinical studies on gynecological disorders.



## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* Experimental biological research (toxicology, pharmacology, endocrinology) fully equipped facilities for experimental pharmaceutical research.

*Research Personnel:* J. Lubansky, Director of Biological Research Laboratories; F. A. Philbrook, M. D., Medical Director.

*Laboratory Staff:* Professional 11, technical 10, other 3.

*Recruiting Contact:* L. Field, Director of Personnel.

### PARKIN ARCHITECTS ENGINEERS PLANNERS

147 Front Street West, Toronto 129, Ontario.

*Managing Partner:* John C. Parkin.

*Fields of Interest:* Architecture, engineering related to building construction, planning.

*Major Activity of Company:* R&D 2%, Consulting 98%.

*Research Facilities:* Facilities part of company headquarters.

*Research Personnel:* P. H. Warren, D. L. Wilson, J. B. Mar, G. F. Anderson.

*Laboratory Staff:* Professional personnel called on as required.

*Recruiting Contact:* J. B. Mar.

### POLYMER CORPORATION LIMITED

Sarnia, Ontario.

*President:* I. C. Rush.

*Fields of Interest:* Manufacture of synthetic rubbers, latices, resins and associated raw materials. Fabrication and sale of selected plastic consumer items. Sale of computer services. Manufacture and sale of modular housing.

*Major Activity of Company:* R&D 96%, Testing and Evaluation 4%.

*Research Facilities:* Fully equipped laboratories and pilot plants for synthesis, evaluation, process and application development of company products.

*Research Personnel:* E. J. Buckler, Vice-President; L. A. McLeod, Manager, R&D Division; W. G. Forbes, Manager, Marketing Laboratories & Services; D. E. McLellan, Manager, Operations Technology; D. A. Henderson, Manager, Patent Department.

*Recruiting Contact:* H. A. Graham.

## INDUSTRIAL RESEARCH FACILITIES

### PROCTOR & GAMBLE COMPANY OF CANADA, LIMITED

Head Office: 2 St. Clair Avenue West, P.O. Box 355,  
Terminal "A", Toronto, Ontario.

*President:* G. Williams.

*Fields of Interest:* Soaps, detergent, shortening, cooking oils, prepared cake mixes, cleaners, cleansers for use in the home and industry, toilet goods products, dentifrice, mouth wash, hair shampoo and deodorants.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Burlington Street East, Hamilton, Ontario. Applied research and development laboratories and pilot plant facilities with a staff of approximately 30 scientists and technicians.

*Research Personnel:* Dr. J. F. Goodman, Director; H. H. Beyer, D. R. Morton, M. W. O'Connor, F. A. Brownridge, C. J. Dempwolf and approximately 25 engineers and chemists.

*Laboratory Staff:* Approximately 25 technicians on staff.

*Recruiting Contact:* A. F. Howey, Burlington Street East, Hamilton, Ontario.

### RCA LIMITED

P.O. Box 800, Ste-Anne-de-Bellevue, Quebec.

*President:* J. D. Houlding.

*Fields of Interest:* Manufacturing — Color kinescopes, television, records, hi-fi, communications equipment, displays, solid state detectors, satellite communications, receiving earth stations. Sales — In addition to above: computers broadcast equipment, solid state components. Research, Development and Engineering — Major electronic systems, space communications, computer peripherals and displays, semiconductor electronics, lasers, microwave communications.

*Major Activity of Company:* Mfg. 99%, R&D 1%.

*Research Facilities:* 18,000 sq. ft. of ultra-modern laboratory facilities including: semiconductor electronics device fabrication facilities, high power laser and laser communications facilities, plasma facilities (arc jet, magnetic fields, etc.), electronic instrumentation.

*Research Personnel:* Dr. M. P. Bachynski, Director of Research, D. Bennett, Junior Member of Scientific Staff; J. C. Boag, Member of Scientific Staff; R. E. Cardinal, Member of Scientific Staff; Dr. J. M. Conradi, Member of Scientific Staff; Dr. R. A. Crane, Member of Scientific Staff; T. Doyle, Member of Scientific Staff; Dr. T. Fancott, Member

## INDUSTRIAL RESEARCH FACILITIES

of Scientific Staff; Dr. E. J. Fjarlie, Member of Scientific Staff; Dr. A. K. Ghosh, Member of Scientific Staff; Dr. J. V. Gore, Member of Scientific Staff; Dr. R. M. Green, Laboratory Director, Opto-electronic Systems & Director, Research Programme Development; Dr. R. G. Harrison, Member of Scientific Staff; D. Hurlburt, Member of Scientific Staff; Dr. R. J. McIntyre, Laboratory Director, Semiconductor Electronics; Dr. H. J. Moody, Senior Member of Scientific Staff; Dr. F. J. F. Osborne, Laboratory Director, Plasma & Space Physics; A. R. Raab, Member of Scientific Staff; P. Schuddeboom, Member of Scientific Staff; Dr I. P. Shkarofsky, Senior Member of Scientific Staff; Dr. S. Y. K. Tam, Member of Scientific Staff; A. Waksberg, Senior Member of Scientific Staff; Dr. F. G. R. Warren, Associate Director of Research & Lab. Dir., Systems & Applications; P. P. Webb, Senior Member of Scientific Staff; J. I. Wood, Member of Scientific Staff.

*Laboratory Staff:* E. N. Almey, Research Assistant; J. Bignet, Research Assistant; R. Bilodeau, Research Assistant; W. A. Chisholm, Manager, Research Administration; Mrs. G. Donaldson, Librarian; G. Forray, Research Assistant; B. W. Gibbs, Research Associate; Mrs. M. Goldfinch, Technical Typist; Miss T. Hackett, Tracer & Varitypist; Mrs. F. Legault, Clerk-Res. Admin.; J. Masterson, Lab. Technician (A); E. Newby, Research Assistant; Miss C. Poitras, Secretary; Mrs. E. Reynolds, Technical Typist; J. L. Robichaud, Research Assistant; J. Snasdell-Taylor, Research Assistant; Miss A. M. Strapp, Library Assistant; Mrs. J. Sypniewska, Research Assistant; M. J. J. Teare, Research Associate; M. Tessier, Contract Administrator; Miss D. Turner, Technical Typist.

*Recruiting Contact:* M. P. Bachynski.

## REDPATH SUGARS LIMITED

95 Queen's Quay East, Toronto, Ontario.

*President:* J. H. Magee.

*Fields of Interest:* Refining of sugar, production and marketing of sugars and allied products.

*Major Activity of Company:* Mfg. 96%, R&D 2%, Consulting 2%.

*Research Facilities:* Central computer and data logger station in Toronto. Research Laboratory in Montreal.

*Research Personnel:* S. Stachenko, General Manager R&D; K. E. Baker, Systems Manager; R. Valkers, Engineering Development; P. Pommeze, Chemical Research; J. N. Clark, Product Development.

*Laboratory Staff:* Technicians and supporting staff 12.

*Recruiting Contact:* S. Stachenko.

## INDUSTRIAL RESEARCH FACILITIES

### REICHHOLD CHEMICALS (CANADA) LTD.

1919 Wilson Avenue, Weston, Ontario.

*President:* G. L. Hagen.

*Fields of Interest:* Synthetic resins for plastics, moulding compounds, adhesives, surface coatings and chemicals, such as formaldehyde.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Polymer research laboratories in Vancouver and Toronto.

*Research Personnel:* Dr. S. Kambanis, Dr. H. Kucharska, Dr. P. Nott, A. Jansen.

*Recruiting Contact:* R. T. O'Shaughnessy, Corporate Technical Director.

### P. L. ROBERTSON MANUFACTURING COMPANY LIMITED

97 Bronte St., Milton, Ontario.

*President:* S. H. Bonser.

*Fields of Interest:* Manufacturing of industrial fasteners, processing of steel coiled wire, drawn steel processing and manufacturing of cold heading tools.

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 5%.

*Research Facilities:* 4,000 sq. ft. devoted to research and development with complete testing laboratories.

*Research Personnel:* Geoffrey Dreger, Vice-President Manufacturing.

*Recruiting Contact:* Geoffrey Dreger, Vice-President Manufacturing.

### E. S. & A. ROBINSON (CANADA) LTD.

69 Laird Drive, Toronto, Ontario.

*President:* W. G. Reid.

*Fields of Interest:* Flexible and other packaging materials, calendars and allied specialty products.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Laboratories and pilot plant for development of new packaging materials and investigation of packaging of food and other products.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* J. L. Cameron, Research & Development Manager; G. Soos, Chief Chemist.

*Laboratory Staff:* Professionals 8, technicians 11.

*Recruiting Contact:* K. R. Bertram.

### SALADA FOODS LTD.

855 York Mills Road, Don Mills, Ontario.

*President:* M. L. Johnson.

*Fields of Interest:* Tea, powdered desserts, fruit flavoured beverage mixes, potato products, jams, jellies and marmalades, dehydrated foods, formulated foods, snack foods, puddings and pie fillings, bakery products.

*Major Activity of Company:* R&D 80%, Testing and Evaluation 10%, Consulting 10%.

*Research Facilities:* Research laboratories and pilot plant located at 855 York Mills Road. Equipped with conventional analytical and pilot plant scale equipment.

*Research Personnel:* M. R. Sahasrabudhe, Director, R&D; L. Okany, G. Lekkerkerker, D. Hartman, Sharon Smith, Louise Hutchison.

*Laboratory Staff:* Food scientists and technologists 4, home economist 1, microbiologist 1, food engineer 1, lab assistants 3.

*Recruiting Contact:* J. Connor.

### SHELL CANADA LIMITED

505 University Avenue, Toronto, Ontario.

*President:* J. F. Bookout.

*Fields of Interest:* Exploration, production and manufacture of petroleum and petrochemical products.

*Research Facilities:* The Oakville Research Centre is a 65,000 sq. ft. research and development centre containing all necessary laboratory, pilot plant and engine test facilities with modern instrumental analytical support to conduct a comprehensive programme of petroleum product and process development.

*Research Personnel:* G. Shane, Director-Research; D. F. Rhodes, Manager, Process Research; F. H. Waight, Manager, Products Research; G. C. Berringer, Administrative Manager.



## INDUSTRIAL RESEARCH FACILITIES

*Laboratory Staff:* Group leaders 9, chemists and engineers 14, technicians and technologists 25.

*Recruiting Contact:* G. C. Berringer, Oakville Research Centre.

### SILVERWOOD DAIRIES, DIVISION OF SILVERWOOD INDUSTRIES LIMITED 75 Bathurst Street, London 15, Ontario.

*President:* D. G. Silverwood.

*Fields of Interest:* Improvement of specific performance characteristics of various dairy products and ingredients, notably milk fat and acid cheese whey.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Research and development laboratory and pilot plant located in the 7,500 sq. ft. former processing plant at 75 Bathurst Street, London, Ontario. At present approximately three-quarters of the top floor (1600 sq. ft.) has been remodelled since April 15, 1968.

*Research Personnel:* H. T. Spettigue, Vice-President, Plant Facilities & Technology, Dairy Divisions; A. G. Sargent, Supervisor, Research & Development; B. M. Perzow, Research Assistant; R. J. Flanigan, Research Assistant; K. J. Sorensen, Research Technician; C. L. Diutschaever, Dept. of Food Science, University of Guelph, Projects Advisor.

*Recruiting Contact:* A. G. Sargent, Supervisor, Research & Development.

### SPAR AEROSPACE PRODUCTS LTD. 825 Caledonia Rd., Toronto 395, Ontario.

*President:* L. D. Clarke.

*Fields of Interest:* Aerospace gear manufacturing; spacecraft design and manufacture; repair and overhaul of gear boxes and aircraft instruments; research, design and development of antennas and booms for spacecraft; solid state power conditioning devices for ground and satellite applications; electro-optical systems for remote sensing, and infrared acquisition systems.

*Major Activity of Company:* Mfg. 30%, R&D 30%, Testing and Evaluation 10%, Other 30%.

*Research Facilities:* Mechanical, electronic, physics, (electro-optical) infrared and metallurgical laboratories.



## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* H. S. Kerr, Chief Engineer; H. R. Warren, Chief Space Systems Engineer; S. Ahmed, Chief Mechanical Research Engineer, Space Antennas and Booms; T. H. Ussher, Chief Electrical Engineer, Power Conditioning.

*Laboratory Staff:* Mechanical 6, Metallurgical 5, Power Conditioning 2, Electro-Optical 4.

*Recruiting Contact:* E. V. Nield, Director of Personnel and Employee Relations.

### SPARTON OF CANADA LIMITED

P.O. Box 5125, 100 Elm St., London, Ontario.

*President:* J. H. Gregson.

*Fields of Interest:* Sonobuoy transmitters, receivers and hydrophones, transducers, ASW systems, radio controls, electronic test equipment.

*Major Activity of Company:* Mfg. 90%, R&D 5%, Testing and Evaluation 5%.

*Research Facilities:* Comprehensive electronic test equipment to satisfy production of sophisticated electronic products. Coablete water and high pressure water environment for research, test and development of transducers, hydrophones and associated equipment.

*Research Personnel:* B. Graham, J. P. Chevalie, J. W. Maradyn, E. Donovan.

*Laboratory Staff:* R. MacPherson, C. Thompson, W. Butcher, J. Brumet; R. Jones, P. Verhagen.

*Recruiting Contact:* J. H. Gregson.

### STANDARD-MODERN TOOL COMPANY LIMITED

69 Montcalm Avenue, Toronto 10, Ontario.

*Vice-President & General Manager:* R. J. Barrett.

*Fields of Interest:* Research and development of special and standard machines in the following areas: metalworking, injection molding, automatic assembly, nuclear fuel handling.

*Major Activity of Company:* Mfg. 67%, R&D 20%, Testing and Evaluation 10%, Consulting 3%.

## INDUSTRIAL RESEARCH FACILITIES

*Research Facilities:* One thousand square feet of floor space and test equipment related to above.

*Research Personnel:* W. Maddock, S. Barclay, L. Franklin, R. O'Connor.

*Laboratory Staff:* Drawn from manufacturing division as required.

*Recruiting Contact:* W. Maddock.

## STANGE CANADA LIMITED

3340 Orlando Drive, Malton Postal Station, Mississauga, Ontario.

*President:* T. J. Keefe.

*Fields of Interest:* Basic research into the chemical composition of spices, herbs and other essential oil-bearing plants. Other areas of interest are terpenoid chemistry, flavour chemistry, chromatographic methodology, distillation methodology, chemotaxonomy and the feasibility of establishing essential oil crop cultivation and distillation.

*Major Activity of Company:* Mfg. 97%, R&D 1.9%, Testing and Evaluation 1.0%, Consulting (External) 0.1%.

*Research Facilities:* 3,000 square foot research laboratory complete with gas chromatographic, infrared spectroscopy and distillation equipment.

*Research Personnel:* B. M. Lawrence, Director; J. W. Hogg, Senior Chemist; S. J. Terhune.

*Laboratory Staff:* K. M. Weaver, E. M. Scott.

*Recruiting Contact:* B. M. Lawrence.

## THE STEEL COMPANY OF CANADA, LIMITED

Research Centre, Kerns Road, Burlington, Ontario.

*President:* J. P. Gordon.

*Fields of Interest:* Chemical and physical metallurgy of steel products and manufacturing processes; chemistry, physics, mechanics and new product development.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Research centre of 60,000 sq. ft., opened in 1967. Includes laboratories and pilot plant facilities, with all necessary modern equipment and analytical tools.

## INDUSTRIAL RESEARCH FACILITIES

*Research Personnel:* J. G. Sibakin, Director; J. C. McKay, Assistant Director; R. L. Addinall, D. B. Clay, R. Littlewood, T. R. Meadowcroft, L. C. McLean, F. J. Pearce, Senior Supervisors.

*Laboratory Staff:* Technical Advisors 2, associates 7, investigators 27, analysts 33, technicians 9, service staff 17.

*Recruiting Contact:* R. W. Haddow, Management Development Dept., The Steel Company of Canada, Limited, Wilcox St., Hamilton 23, Ontario.

### STERNSON LIMITED

22 Mohawk St., Brantford, Ontario.

*President:* F. E. Sterne.

*Fields of Interest:* Concrete admixtures. Flooring systems — latex-epoxy-abrasion resistant. Chemical resistant coatings. Sealants — architectural. Refractory products.

*Major Activity of Company:* Mfg. 40%, R&D 20%, Testing and Evaluation 20%, Consulting 10%, Other 10%.

*Research Facilities:* Concrete mixing, curing, compression, flow, flexure. Viscosity measures — Brookfield, McMichaels. Colorimeter, muffle furnace, ovens. Routine analytical and wet chemistry equipment.

*Research Personnel:* W. Stol, Water Treatment; A. Scott, Building Products; D. Henderson, Building Products; S. Tkach, Sealants; F. Kerr, Chief Chemist.

*Laboratory Staff:* G. Lacey, J. Clarke, C. Nightingale.

*Recruiting Contact:* F. G. Kerr.

### TEXACO CANADA LIMITED

1425 Mountain Street, Montreal 107, Quebec.

*President:* A. G. Farquharson.

*Fields of Interest:* Integrated oil company, petrochemicals.

*Research Facilities:* Ontario only. Comprehensive lubricant development and testing laboratory.

*Research Personnel:* F. v. M. Bevan, Chief Chemist.

*Laboratory Staff:* Chemists 2, technicians 2.

## INDUSTRIAL RESEARCH FACILITIES

### THOMSON RESEARCH ASSOCIATES LIMITED

53 Shaw Street, Toronto 3, Ontario.

*President:* J. D. Woods.

*Fields of Interest:* Chemical finishing of textiles. Germicides, as applied to textiles, leather plastics, paint, non-wovens. Routine testing of textiles and road building materials.

*Major Activity of Company:* Mfg. 10%, R&D 65%, Testing and Evaluation 15%, Consulting 10%.

*Research Facilities:* Well equipped laboratories for chemical and microbiological research located at 53 Shaw St. and 70 Crawford St., Toronto, Ont.

*Research Personnel:* N. H. Cruickshank, Vice-President & General Manager; P. J. Radford, Chief Chemist; H. Middleton, Research Scientist; F. Mains, Research Scientist; P. Glaister, Chief Microbiologist; L. Wortley, Research Assistant; B. Gold, Research Assistant.

*Laboratory Staff:* B. Boyes, S. Mitric, W. DelDegan, G. Paradiso, D. Swatridge.

*Recruiting Contact:* N. H. Cruickshank.

### TRANSCANADA PIPELINES

150 Eglinton Ave., East, Toronto 12, Ontario.

*President:* V. L. Horte.

*Fields of Interest:* Control system analysis and simulation non-destructive testing of pipe.

*Major Activity of Company:* R&D 20%, Testing and Evaluation 50%, Consulting 30%.

*Recruiting Contact:* P. J. Scheirich.

### TRUCK ENGINEERING LIMITED

165 Wellington Street, South, Woodstock, Ontario.

*President:* V. B. King.

*Fields of Interest:* Truck trailers, utility derricks and related equipment.

*Major Activity of Company:* Mfg. 99%, R&D 1%.

*Research Personnel:* R. Nixon, Mechanical; R. McLeod, Technologist, Mechanical.

*Recruiting Contact:* R. Nixon.

## INDUSTRIAL RESEARCH FACILITIES

### UNION CARBIDE CANADA LIMITED

123 Eglinton Avenue East, Toronto 12, Ontario.

*President:* J. S. Dewar.

*Fields of Interest:* Manufacture of chemicals, resins, alloys, gases, etc.

*Major Activity of Company:* Mfg. 100%.

*Research Facilities:* Research and Development Laboratories at Montreal, Toronto, Arnprior and Welland.

*Research Personnel:* G. L. Bata, Montreal; H. M. Brown, Toronto; W. M. Palmer, Arnprior; J. W. Ross, Toronto; Z. B. Wowk, Welland.

*Recruiting Contact:* E. L. Veitch.

### UNIROYAL LTD.

Research Laboratories,  
120 Huron Street, Guelph, Ontario.

*President:* H. D. Glenn.

*Fields of Interest:* Exploratory and applied organic, physical and polymer chemistry and technology of products and processes related to monomers, resins, elastomers, textiles, rubber and industrial chemicals, agricultural chemicals, pollution control.

*Major Activity of Company:* R&D 100%.

*Research Facilities:* Central research laboratories in Guelph, with associated divisional development laboratories, pilot plants, etc., at Kitchener (tires, rubber and textile products, crash pads, coated fabrics), in Elmira (chemicals, resins) and in Lindsay (textiles, tire cord).

*Laboratory Staff:* Professionals (research chemists, physicists, engineers) 60 and technicians and laboratory staff 55, in central research laboratories, Guelph. Professionals (engineers, chemists) 35 and supporting technicians and laboratory staff 45, in divisional development laboratories in Kitchener and Elmira.

*Recruiting Contact:* J. C. R. Warren, Co-ordinator, R&D, Research Labs, Guelph. W. R. Smith, Mgr. Product Development, Tire Factory, Kitchener; R. R. Vincent, Mgr. Technical Dept., General Products Factories, Kitchener; F. M. Hager, Development Mgr., Uniroyal Chemical Div., Elmira.



## INDUSTRIAL RESEARCH FACILITIES

### VARIAN ASSOCIATES OF CANADA LTD.

45 River Drive, Georgetown, Ontario.

*President:* H. P. Katherman.

*Fields of Interest:* Development of microwave tubes (including reflex klystrons, extended interaction oscillators, travelling wave tubes and magnetrons), power supplies, infrared dewars and gamma ray cameras.

*Major Activity of Company:* Mfg. 80%, R&D 20%.

*Research Facilities:* Complete facilities for the design, manufacture and testing of microwave tubes and power supplies. Chemistry and metallurgical laboratory.

*Research Personnel:* M. Viant, Millimeter Devices, Infrared Dewars; C. E. Searle, Travelling Wave Tubes; K. D. Becker, Waveguide Components; C. Whitehead, Power Supplies; K. A. MacDonald, Thermionic Emission; C. W. Hansen, Gamma Ray Camera.

*Laboratory Staff:* Electrical engineers 8, physical chemist 1, plus supporting staff.

*Recruiting Contact:* R. B. Wilson.

### VERSAFOOD SERVICES LIMITED

95 Brockhouse Road, Toronto 14, Ontario.

*President:* W. E. Emerson.

*Fields of Interest:* Food Service — business and industry, institutions, mobile and vending, gourmet restaurants.

*Major Activity of Company:* R&D 30%, Testing & Evaluation 70%.

*Research Facilities:* Research and standards division, food and food systems development testing and evaluation of foods and equipment, packaging.

*Research Personnel:* T. B. Turner, Manager of Research and Standards.

*Laboratory Staff:* W. Pauls, Microbiologist; D. Adair, Research Technician.

*Recruiting Contact:* N. Manherz.



## INDUSTRIAL RESEARCH FACILITIES

### WESTEEL-ROSCO LIMITED

1 Atlantic Avenue, Toronto 150, Ontario.

*President:* R. M. Calhoun.

*Fields of Interest:* Metal fabrication of products for the building industry including pre-engineered buildings; highway and drainage including culverts and guardrails; agricultural including grain handling and drying systems; storage, including racks, shelving, bins, etc.

*Major Activity of Company:* Mfg. 98%, R&D 2%.

*Research Facilities:* Approximately 1,000 sq. ft. of laboratory for testing of products related to our field. Testing equipment includes load cells, strain gauges and test beds.

*Research Personnel:* G. T. Halmos, R. G. Furzer, C. Fung, B. K. Hrazdira, G. Heller.

*Laboratory Staff:* K. Lai.

*Recruiting Contact:* W. A. Glockling.

### WESTINGHOUSE CANADA LTD. (formerly Canadian Westinghouse Co. Ltd.)

P.O. Box 510, Hamilton, Ontario.

*President:* W. J. Cheesman.

*Fields of Interest:* Designing, manufacturing, distributing and servicing electrical products.

*Research Facilities:* On January 1, 1970 the research activities were decentralized into the various operating divisions of the company. Extensive facilities for electrical and mechanical testing and evaluation, electronics R&D, integrated circuits; for development of materials and components, especially those pertaining to fuel used in nuclear reactors.

*Research Personnel:* R. O. Morse, Director of Research and Development Coordination; H. D. Barber, Mgr. R&D, Solid State Section; K. D. Mills, Mgr. Engineering, Electronics Div.; D. L. Brignall, Mgr. Product Assurance Laboratory, T&G Div.; J. Howieson, Engineering Manager, Atomic Power Division; D. Lee, Manager, High Voltage DC Transmission Project. These people are responsible for major areas of R&D.

*Laboratory Staff:* In excess of one hundred professionals, supported by technicians, technologists and craftsmen.

*Recruiting Contact:* Mrs. I. Watson, Personnel Dept.

## INDUSTRIAL RESEARCH FACILITIES

### G. H. WOOD & COMPANY LIMITED

Queen Elizabeth Way, P.O. Box 34, Toronto, Ontario.

*President:* G. H. Wood.

*Fields of Interest:* Complete range of chemical and mechanical, industrial, sanitation products. Special emphasis placed on products for hospitals, schools and institutions and on the control of airborne and surface bacteria.

*Major Activity of Company:* Mfg. 15%, R&D 40%, Testing and Evaluation 20%, Consulting 15%, Technical Services 10%.

*Research Facilities:* Complete chemical laboratory in Toronto to research and develop full range of sanitation products, including development and testing of germicidal detergents, disinfectants, waxes and polymer floor finishes, emulsion sealers, insecticides, odour controlling agents, etc.

*Research Personnel:* P. J. Ammann, Director of Chemical Research and Development; W. J. McCurdy, Chief Chemist; G. W. Styan, Vice-President and Co-ordinator of Marketing Services.

*Laboratory Staff:* J. Meier, Analytical Chemist; P. Sharpe, Detergent Chemist; I. McConnell, Chemist; B. Bletcher, Secretary and Technician.

*Recruiting Contact:* J. P. Wood, Personnel Manager.

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